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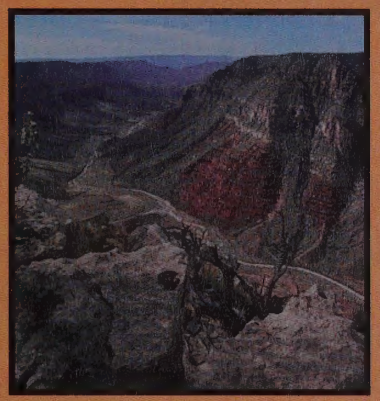
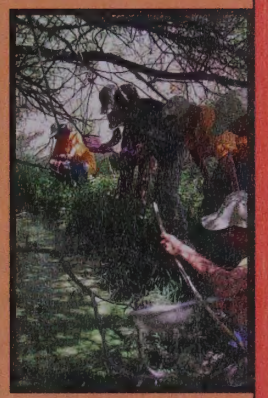
National Landscape Conservation System

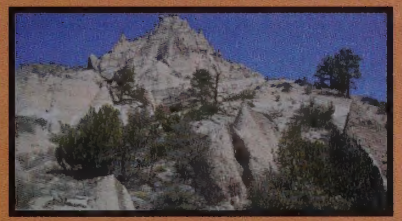
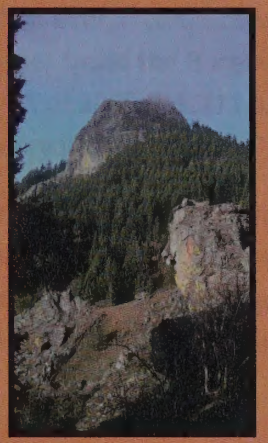
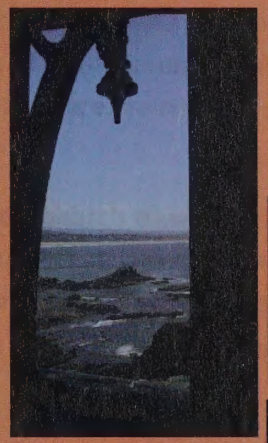
Science Summary Report

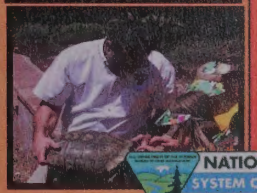
Bureau of Land Management

2008







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National Landscape Conservation System
Science Report 2008

The National Landscape Conservation System (NLCS) is a magnificent outdoor laboratory for the BLM and researchers with its wide and astounding array of opportunities for cultural and natural science projects. There is enormous potential to apply understanding gained from science conducted on NLCS units to other BLM public lands, allowing NLCS to function as an outdoor laboratory for the integration of science and best-management practices. As an outdoor classroom, the NLCS can also open the doors of curiosity for youth and expose them to an array of astonishing opportunities. More than ever, a connection with the land will be critical to the public's view of the BLM in the next century. Never have such complex issues faced the Bureau of Land Management and with the codification of the NLCS through the Omnibus Public Land Management Act of 2009 (P.L.111-11), there are new possibilities to explore the landscapes and to explore the meanings and methods of conservation.

BLM's National Landscape Conservation System has burgeoned as a location for active scientific research traversing an eclectic array of disciplines and topics. Research in over a dozen major disciplines reveals remarkable mysteries awaiting understanding. A cache of weird and wonderful knowledge beckons future scrutiny and the collection of scientific projects for 2008 from within the NLCS entices scientists, managers, and the public to better understand the treasures and discoveries of the newest national conservation system, the NLCS.

In 2008 almost 300 projects occurred just within the 37 Monuments, National Conservation Areas, and other congressionally designated conservation areas.

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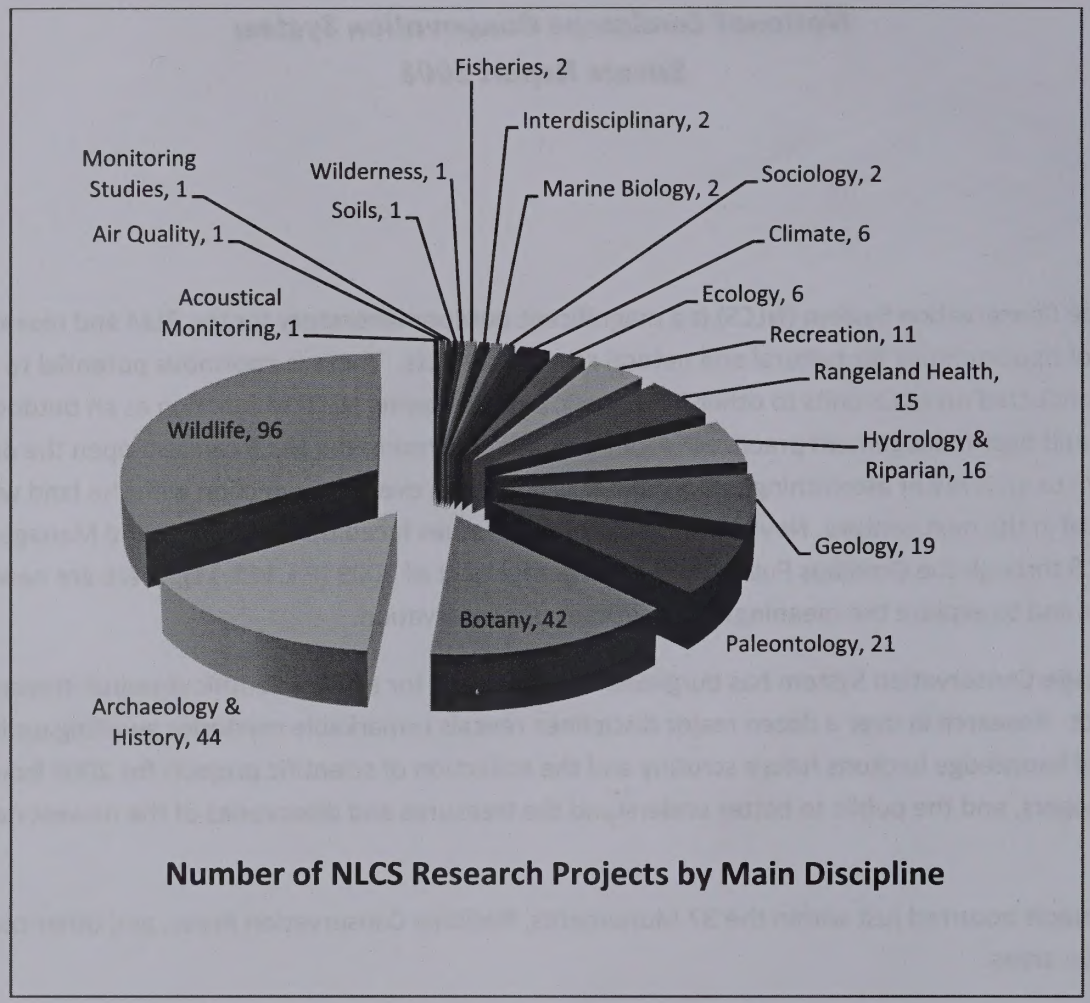

Figure 1. Graph showing NLCS research by main discipline.

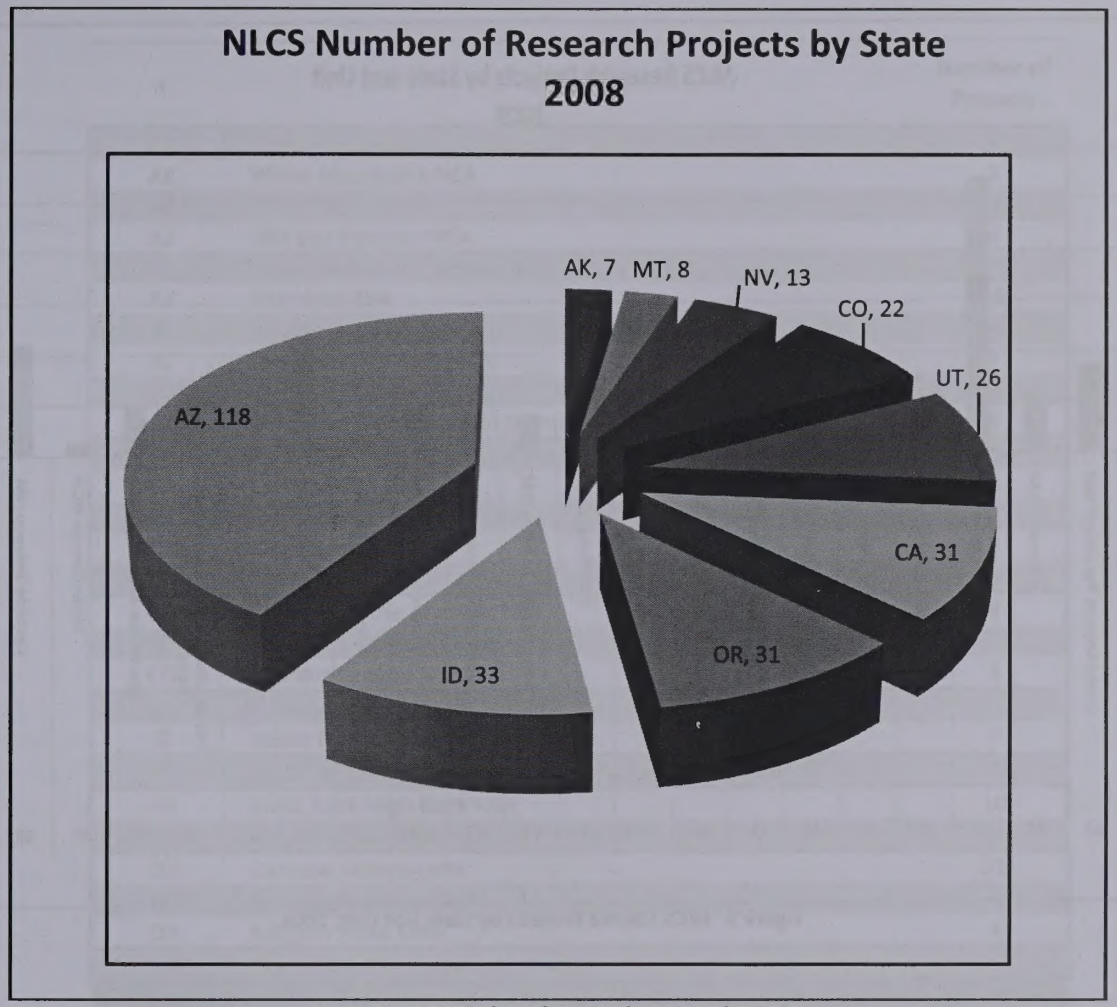

Figure 2. NLCS Number of Research Projects by State.

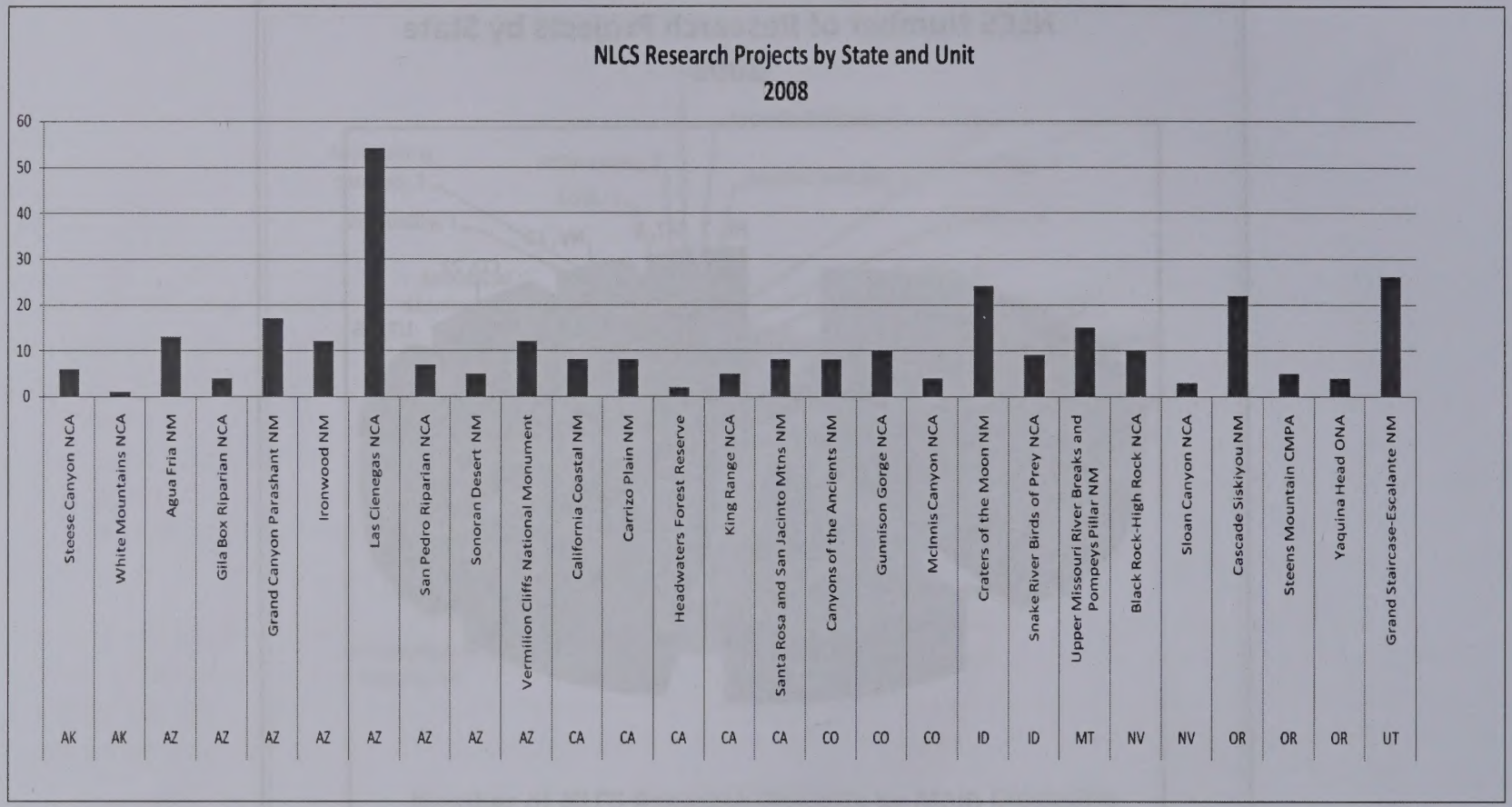

Figure 3. NLCS Science Projects by State and Unit, 2008.

+	NLCS Unit	Number of Projects
AK	Steese Canyon NCA	6
AK	White Mountains NCA	1
AZ	Agua Fria NM	13
AZ	Gila Box Riparian NCA	4
AZ	Grand Canyon Parashant NM	17
AZ	Ironwood NM	12
AZ	Las Cienegas NCA	54
AZ	San Pedro Riparian NCA	7
AZ	Sonoran Desert NM	5
AZ	Vermilion Cliffs National Monument	6
CA	California Coastal NM	8
CA	Carrizo Plain NM	8
CA	Headwaters Forest Reserve	2
CA	King Range NCA	5
CA	Santa Rosa and San Jacinto Mtns NM	8
CO	Canyons of the Ancients NM	8
CO	Gunnison Gorge NCA	10
CO	McInnis Canyon NCA	4
ID	Craters of the Moon NM	24
ID	Snake River Birds of Prey NCA	9
MT	Upper Missouri River Breaks and Pompeys Pillar NM	8
NV	Black Rock-High Rock NCA	10
NV	Sloan Canyon NCA	3
OR	Cascade Siskiyou NM	22
OR	Steens Mountain CMPA	5
OR	Yaquina Head ONA	4
UT	Grand Staircase-Escalante NM	26
	TOTAL	289

Table 1. Number of NLCS Research Projects by State and Unit.

Clearly, the resources of the NLCS are a lure for entities wishing to understand the values and resources of this expansive system. The NLCS offers unparalleled opportunities to better grasp the management issues on public lands as we move into the 21st century. Formal and informal partnerships with 167 collaborators helped accomplish the vast array of scientific projects on the NLCS:

Partners

Alaska Department of Fish and Game (ADFG) • Arizona Archaeological Society • Arizona Department of Water Resources • Arizona Desert Bighorn Sheep Society • Arizona Game and Fish Department • Arizona Public Service • Arizona Site Stewards • Arizona State Parks • Arizona State University • Arizona Water Protection Fund • Appleton-Whittel Audubon Research Ranch • Babocomari Ranch • Bear River Band of Rohnerville and Wiyot Tribes • Bighorn Institute • Boise State University • Boyd Deep Canyon Desert Research Center • Brigham Young University • Bureau of Reclamation • California Department of Fish and Game • California Department of Public Health • California Native Plant Society • California State University, Bakersfield • California State University, Northridge • California-Nevada Chapter of the Oregon-California Trails Association • Chicago Botanic Institute • City of Safford, AZ • Clemson University, South Carolina • Colorado Bat Working Group • Colorado Department of Wildlife • Colorado Geological Survey • Colorado Natural Heritage Program • Colorado River Basin Salinity Control Forum • Colorado State University • Colorado University Boulder • Coronado RDC • Crow Canyon Archaeological Center • Denver Museum of Natural History • Desert Botanical Garden • Desert Research Institute • Eastern New Mexico University • Eastern Oregon Agricultural Research Service • French Institute of Petroleum • Friends of Agua Fria • GeoCorps America Intern Program, Geological Society of America Grand • Canyons Wildland Council • Grand Valley Selenium Task Force • Gunnison Basin Selenium Task Force • High Rock Trekkers • Humboldt State University • Idaho Army National Guard • Idaho Department of Fish and Game • Idaho Power • Idaho State University • Institute for Applied Ecology • Joint Fire Science Program • Kaibab National Forest • Kaibab-Vermilion Cliffs Heritage Alliance • Kelly Place Elderhostel Service • Laguna Ocean Foundation • Lava Lake Institute for Science and Conservation • Macalester College • Madrone Audubon Society • Mattole Restoration Council • Mattole Restoration Council's Ecological Education Program • Mattole Salmon Group • Mendocino Coast Audubon Society • Mercury Deposition Network • Mesa State College • Mexican Federal Resource Agencies • Montana State University • Museum of Western Colorado • NASA • National Atmospheric Deposition Program • National Park Service • National Science Foundation • Natural Areas Association • Natural Resources Conservation Service • Nevada Outdoor School • Nevada State College • NOAA • Northern Arizona University • Northern Arizona University, Ecological Restoration Institute • Northwestern University Ohio University • Oklahoma Museum of Natural History • Oregon Archaeological Society • Oregon Eagle Foundation • Oregon State University, Agricultural Research Service • Oregon State University • Oregon State University, Hatfield Marine Science Center • Pacific Coast Fish Wildlife • Pacific Crest Trail Association • Partnership for Interdisciplinary Studies of Coastal Oceans • Pennsylvania Power and Light, Montana • Peregrine Fund • Private Land Owners • Purdue University • Raymond M. Alf

Museum of Paleontology • Rocky Mountain Research Station • Sacramento State University • Saint Louis University • San José State University • Sea and Sage Audubon Society (Point Reyes Bird Observatory) • Sky Island Alliance • Sonoran Audubon Society • Sonoran Institute • Southern Arkansas University • Southern Humboldt Unified School District • Southern Illinois University • Southern Oregon • Southern Sierra Research Station • Southern University NY • Southern Utah University • Stanford University • State of Colorado • Student Conservation Associates • Texas A&M • The Climate Reference Network • The Institute for Bird Population • The Nature Conservancy • The Sea Ranch Association California Coastal National Monument Task Force • Trails West • Trout Unlimited • USDA, Agricultural Research Service • US Army Corps of Engineers • U.S. Department of Energy • USFWS • U.S. Forest Service - Kaibab, Prescott, and Tonto National Forests • United States Coast Guard • United States Geological Survey • USGS Boise State University • USGS BRD • USGS California Cooperative Fisheries Research Unit • USGS Sonoran Desert Research Station • University of Alaska Fairbanks • University of Arizona • University of Arizona Range Club • University of California Berkeley • University of California Santa Cruz • University of Idaho • University of Nebraska • University of Nevada Las Vegas • University of Nevada Reno • University of New Mexico • University of Northern Colorado • University of Utah • University of Washington • University of Wisconsin Milwaukee • University of Witwatersrand, South Africa • Upper Agua Fria Watershed Coalition • US Army Corps of Engineers • U.S. Fish and Wildlife Service • U.S.D.A., Agricultural Research Service • Utah Division of Wildlife Resources • Utah Geological Survey • Utah Museum of Natural History • Virginia State University • Volunteers • Washington State University • Weber State University • Western Ecological Service Center • Western Wyoming College • Wetlands Restoration Association • Wild Utah Project • Wildlife Conservation Society • Yale Peabody Museum •

To view the NLCS Science Strategy, Please visit:

http://www.blm.gov/style/medialib/blm/wo/Law_Enforcement/nlcs.Par.66254.File.dat/NLCS_ScienceStrategy.pdf

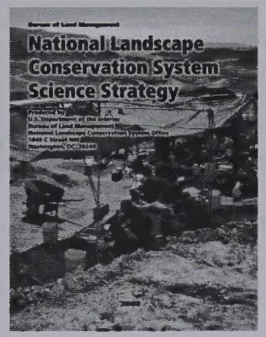

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Table 1. Number of NLCS Research Projects by State and Unit v

Science Summary for Monuments and National Conservation Areas - 2008

State	Unit	Discipline	Collaborator	Project Name	Project Description
AK	Steese Canyon National Conservation Area	archaeology	University of Alaska Fairbanks, Anthropology Department	Archaeological GIS Modeling Project	This project will produce a Geographic Information System (GIS) model partitioning the project area into higher and lower potential for prehistoric and historic Alaska Native site recovery.
AK	Steese Canyon National Conservation Area	wildlife	Alaska Department of Fish and Game (ADFG)	Estimate Moose Population Parameters, Distribution, and Habitat Use and Evaluate Effects of Fire	Estimate moose population parameters, distribution, and habitat use and evaluate effects of fire.
AK	Steese Canyon National Conservation Area	wildlife	Alaska Department of Fish and Game (ADFG); US Fish and Wildlife Service; National Park Service	Dall Sheep Ecology	Describe important habitats for White Mountains Dall sheep herd through the use of GPS radio collars.
AK	Steese Canyon National Conservation Area	wildlife	Alaska Department of Fish and Game (ADFG)	Monitoring of White Mountains and Fortymile Caribou in Steese NCA and White Mountian National Recreation Area	
AK	Steese Canyon National Conservation Area	wildlife	Alaska Department of Fish and Game (ADFG)	Moose Census	Estimate moose population parameters, distribution, and habitat use. Evaluate effects of fire.
AK	Steese Canyon National Conservation Area	wildlife	Alaska Department of Fish and Game (ADFG)	Monitoring Subsistence Populations: Fortymile Caribou	Cooperatively monitor populations of subsistence species, in this case Fortymile Caribou Herd, an extremely herd for providing for subsistence needs. BLM provides funding to ADFG to monitor this herd, which is essential for the joint Federal/State management of this herd.
AK	White Mountains National Recreation Area	recreation	University of Alaska Fairbanks (UAF)	Benefits-Based Management Study	A study was conducted by University of Alaska Fairbanks that consisted of surveying recreational visitors to the SCNCA. It measured the four levels of recreation demand: activities, settings, experiences, and benefits. The information derived from this study is imperative to implement a Benefits-Based Management approach within the Eastern Interior Field Office's Resource Management Planning process.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Agua Fria National Monument	archaeology	Arizona Site Stewards	Arizona Site Stewards Monitoring	Volunteers regularly visit and monitor the condition of over 20 archaeological sites. They focused their efforts on the large, conspicuous and accessible sites most vulnerable to vandalism.
AZ	Agua Fria National Monument	archaeology		Pueblo La Plata Project	This partnership project continues to analyze painted pottery from Pueblo la Plata. The resulting information from Northern Arizona University's and the Museum of Northern Arizona's study will be compiled into an on-line identification manual for prehistoric pottery types in the Monument, which will be useful for future reference and research.
AZ	Agua Fria National Monument	archaeology	Arizona Archaeological Society, Friends of Agua Fria	Prehistoric Rock Art on Black Mesa	Volunteers with the Arizona Archaeological Society recorded three petroglyph sites on Black Mesa in the Monument. Volunteers contributed 146 hours in fieldwork and data entry and $150 in mileage expenses, for a total contribution valued at $2,998. The BLM expended approximately $1,600 in labor.
AZ	Agua Fria National Monument	archaeology	Arizona Public Service	Cultural Resource Survey, Powerline R-O-W	The entire length of a twin 500kV power line right-of-way that traverses the Monument was surveyed for archaeological resources in 2008 by Arizona Public Service (APS). The detailed survey is the most thorough cultural survey conducted in the area. The survey was done to identify and protect cultural resources located within the right-of-way prior to vegetation clearing.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Agua Fria National Monument	archaeology: interdisciplinary	Arizona State University	Legacies on the Landscape	As part of the archaeological component of this interdisciplinary project, scientists and students prepared detailed maps of Pueblo la Plata and Richinbar Pueblo; surveyed and mapped an extensive area around Pueblo la Plata, along with additional surveys to identify and document prehistoric farming terraces and agave fields . Studies also initiated the origins and distribution of prehistoric pottery types in the Monument. In addition to this ASU collected samples of prehistoric ceramics from the surfaces of several monument sites, to be used for examining pottery production, trade, and social relationships among villages and regions. Audubon Magazine article on this project. http://audubonmagazine.org/features0803/archaeology.html
AZ	Agua Fria National Monument	archaeology; botany	Desert Botanical Garden, Arizona State University	Identification of Agave Species and Prehistoric Agave Fields	Desert Botanical Gardens (DBG) is assisting Arizona State University in the identification of agave species and prehistoric agave fields.
AZ	Agua Fria National Monument	botany: rangeland health: climate	Private landowners	Management Strategies for Grazing in Response to Drought	At the end of FY 06, owners of the Horseshoe Ranch began removing livestock form the Horseshoe Allotment for a rest period of two years, allowing conditions to recover from recent drought effects. During this period, the ranch owner and the BLM evaluate management strategies for improving pronghorn habitat and grazing regimes.
AZ	Agua Fria National Monument	botany: restoration	Prescott and Tonto National Forests; Arizona Department of Game and Fish	Central Arizona Grassland Management Plan	Develop an integrated management plan for conservation and restoration of grassland ecosystems and associated pronghorn habitat in central Arizona. Coordinated approach will help facilitate the implementation of landscape level habitat projects by maximizing use of available resources.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Agua Fria National Monument	botany: restoration	Desert Botanical Garden, Arizona State University	Agua Fria Post-Fire Restoration	The Monument's rehabilitation program initiated a post-fire vegetation change study and grassland restoration project on Black Mesa. The Desert Botanical Garden (DBG) established 21 100-meter transects in burned and unburned areas of Bloody Basin, Perry Mesa, and Black Mesa. DBG has established five rain gauges in the study areas to collect precipitation data. In 2008, native seed collections were completed for use in restoration trials and for seed banks as part of the national Seeds of Success program. Additionally, soil erosion studies were initiated on Black Mesa. Approximately 8,000 acres of the monument are being monitored as part of the post-fire vegetation study. The project yields useful information for the restoration of native vegetation in the Monument and other semi-arid grasslands in the Southwest.
AZ	Agua Fria National Monument	hydrology	US Army Corps of Engineers; Arizona Department of Water Resources; Upper Agua Fria Watershed Coalition	Agua Fria River Watershed Study	Development and implementation of hydrological studies of the Agua Fria River watershed. In particular the Upper Agua Fria Watershed Coalition has a mission to identify, study, and address current and potential problems in maintaining the integrity and quality of the Agua Fria River watershed for the future.
AZ	Agua Fria National Monument	wildlife	Arizona Game and Fish Department; Arizona State University	Pronghorn Habitat Study	Studies of pronghorn foraging behavior on Perry Mesa and Black Mesa include annual surveys of the population, distribution, migration routes, and fawning rates of pronghorn.
AZ	Agua Fria National Monument	wildlife: avian	Sonoran Audubon Society	Bird Species Distribution Studies	Society volunteers conducted surveys and studies of bird species and habitats in the Monument. Audubon has gathered sufficient data to designate the riparian areas within the Monument as "Important Bird Areas," which are part of a global network of places recognized for their outstanding value to bird conservation.
AZ	Agua Fria National Monument	wildlife: climate		Drought Mitigation for Pronghorn Habitat Improvement	Drought Mitigation for Pronghorn Habitat Improvement.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Gila Box Riparian National Conservation Area	ecology: monitoring		Ecological Monitoring	Inventory and monitoring for native fish (including the threatened Gila chub and the endangered razorback sucker). Wildlife monitoring was also provided on Bonita Creek and the Gila River primarily focusing on the willow fly catcher, yellow-billed cuckoo, leopard frog, Mexican garter snake, and raptors. Gila Box staff conducted 12 floatboat patrols on the Gila River for fish, wildlife, riparian, and range monitoring purposes. Range staff completed monitoring for two allotments within the conservation area.
AZ	Gila Box Riparian National Conservation Area	rangeland		Rangeland Monitoring	Rangeland Monitoring.
AZ	Gila Box Riparian National Conservation Area	wildlife		Wildlife Monitoring	Wildlife Monitoring.
AZ	Gila Box Riparian National Conservation Area	wildlife: fisheries	Arizona Game and Fish Department ; Bureau of Reclamation; City of Safford; USFWS; Arizona State University; University of Arizona; Nature Conservancy	Native Fish Salvage	A cooperative effort began in 2006 to construct a fish barrier near the mouth of Bonita Creek. The barrier was finished in September 2006. Beaver ponds were breached to lower pond habitat to help facilitate the native fish salvage and to allow the piscicide (fish toxicant) movement throughout the entire stream system. Six native fish holding tanks were set-up and a hiding structure was added. The City of Safford allowed the BLM to connect to the city water line to keep clean water running through the holding tanks throughout the entire project.
AZ	Grand Canyon Parashant National Monument	archaeology	Nevada State College	Archaeological Field School	Prehistoric adaptation of this dense "island" of population, and specifically its interaction with neighboring populations, as indicated in ceramic exchange patterns.
AZ	Grand Canyon Parashant National Monument	archaeology	Arizona Site Stewards	Arizona Site Steward Archaeological Site Monitoring	The Monument works closely with volunteers in the Arizona Site Steward Program assisting the BLM in locating, recording and monitoring sensitive cultural resource sites.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Grand Canyon Parashant National Monument	botany	National Park Service	Vegetation Classification and Mapping	351 acres of post-treatment forest inventories were conducted and completed as part of the Mt. Trumbull/Mt. Logan forest restoration project. Grand Canyon National Park and the NPS portion of Grand Canyon-Parashant National Monument started a multiyear Vegetation Community Classification and Mapping process to delineate vegetation to Alliance and Association level. In 2008 the field data collection portions of the project were completed. Now 25 alliance and 90 provisional communities are, so far, documented for the Monument, including many additions to the Monument plant species list. This effort has now been extended onto the BLM portion of Monument lands, especially the ponderosa pine forest and Mohave Desert areas with the most critical resource concerns and restoration needs.
AZ	Grand Canyon Parashant National Monument	botany	University of Nevada, Las Vegas	Lichen Inventories	Since 2003 yearly lichen inventories of mosses and liverworts have been made. 171 in 57 lichen genera are identified to date, and the list is growing. Additionally, study to identify the radionuclides and heavy metal deposition found in lichens on the Monument to determine past pollution sources and serve as a baseline for future air pollution studies. Finally, a study to investigate soil biological crust lichens and fungi are underway with two species new to Arizona identifies.
AZ	Grand Canyon Parashant National Monument	botany: forestry	Northern Arizona University Ecological Restoration Institute; Arizona Game and Fish Department	Mt. Trumbull Ecosystem Restoration Project	Phase 1 of the research efforts on the Mt. Trumbull area have concluded. The initial project began in 1994 with the cooperative efforts of Northern Arizona University/Ecological Restoration Institute and the Arizona Game and Fish Department. Pre-restoration inventories were followed by operational thinning and other treatment. Treatment inventories followed to compare changes in vegetation, wildlife and other inventories. Phase 2 has been initiated and will continue indefinitely.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Grand Canyon Parashant National Monument	botany: restoration	Grand Canyons Wildland Council; Arizona Water Protection Fund	Pakoon Springs Restoration	The Arizona Water Protection Fund provided a grant through the Grand Canyon Wildlands Council to determine the feasibility and logistics of implementing the rehabilitation of the complex of springs at Pakoon Springs Ranch. The BLM has entered into a Cooperative Agreement to develop the Feasibility Study and Restoration Plan, with the Grand Canyon Wildlands Council to determine methods, and implement a pilot study to initiate restoration at Pakoon Springs. The purposes of this project are to: 1) rehabilitate and enhance the native biodiversity, ecological function, and the pre-development riparian habitat characteristics of Pakoon Springs; and 2) provide an outdoor venue for natural and cultural resource education, spring restoration interpretation, and recreation on the Monument.
AZ	Grand Canyon Parashant National Monument	botany; restoration	USGS	Fire Restoration Project	Evaluations of catastrophic fire and revegetation efforts by the USGS continue. The evaluation of cost and benefits of BLM revegetation efforts in a burned pinyon/juniper community relative to plant diversity, overall above-ground production, and cheat grass abundance is of prime interest.
AZ	Grand Canyon Parashant National Monument	geology: speleogoly	USGS; National Park Service; NASA	Remotely Sensed Cave Detection Earth and mars	Location of caves on Earth and Mars are discovered via thermographic satellite pictures technology. Data loggers have been placed in selected caves to record temperature and relative humidity.
AZ	Grand Canyon Parashant National Monument	hydrology: riparian: invasives		Spring Inventory	An inventory to document springs and related spring resources has been initiated by the BLM. The results include efforts to develop a spatial/relational data base with accurate spring data including locations and associated riparian dependant resources. The information will be used to identify and plan treatments of new weed infestations, identify sites for collection of riparian vegetation propagation material for restoration work, and identify collection sites for scientific studies of algae.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Grand Canyon Parashant National Monument	speleology: archaeology: interdisciplinary	USGS; Volunteers	Cave Inventory	Continuation of the baseline Cave Ecological Inventory on selected caves of the monument in partnerships with USGS. In FY 08, 22 additional caves were discovered and inventoried. Since the project's inception a total of three new genera and 15 new species of invertebrates have been discovered on the Monument. Archaeological resources discovered in several caves have proven significant and are being actively protected. Temperature studies of archeological caves was also initiated. One geologically unique and significant cave was discovered and gated.
AZ	Grand Canyon Parashant National Monument	wildlife: amphibians		Leopard Frog Introduction at Tassi Springs	In lieu of providing protection to the relict leopard frog by listing it under the Endangered Species Act, the species is being managed under a Conservation Agreement among Federal and State agencies. The Conservation Agreement and a plan were formulated to stabilize the populations of the species and evaluate reintroduction opportunities. The species was first described in 1875 from specimens collected near the Virgin River in Washington County, Utah. Subsequent records and research has shown that the relict leopard frog has a restricted range along portions of the Virgin, Muddy, and Colorado Rivers, particularly in small springs feeding into these rivers. Tassi spring was selected as a site due to its protected status on the Monument and high condition of the habitat around the spring, which has been protected from grazing. In August 2006, 175 individual sub-adult relict leopard frogs were released at Tassi Spring. The Conservation Agreement and Plan include an active monitoring program to track population status and trends. Monitoring in 2008 detected natural reproduction of relict leopard frogs. Total population and other data is being synthesized.
AZ	Grand Canyon-Parashant National Monument	botany	Rocky Mountain Research Station, Brigham Young University	Brome Fungus Research	Initiated in 2007 and ongoing.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Grand Canyon-Parashant National Monument	botany: lichens	Arizona State University	Investigations of the Lichens and their Uses in Biomonitoring at Grand Canyon-Parashant National Monument	This study serves to assess heavy metal deposition to measure sources and levels of air pollution during approximately the last 50 years. Data were collected in 2005 and 2006. Laboratory and data analysis occurred in 2007-2008.
AZ	Grand Canyon-Parashant National Monument	botany: algae	Southern Arkansas University	A Preliminary Survey of the Algae of Grand Canyon-Parashant National Monument	Springs, stock tanks and cave walls were sampled for algae. Samples were indentified in the winter of 2008-2009.
AZ	Grand Canyon-Parashant National Monument	botany: bryophytes	University of Nevada	Bryophyte Diversity and Distribution of the Grand-Canyon Parashant National Monument	679 field collections were made of bryophytes in 47 localities, followed by identification and curation of specimens. Preliminary identifications suggest that the final tally of species will be 100 or so unique taxa. Work in 2008 includes: 1) confirmation of identifications in difficult groups and the completion of species lists for each sampling location; 2) use of existing environmental data to characterize bryophyte habitats and group site species lists into distinct communities; and 3) a prioritization of sampling of specialized bryophyte habitats.
AZ	Grand Canyon-Parashant National Monument	botany: fungi	National Park Service (NPS)	Investigations of the Biological Soil Crusts and Associated Fungi at Grand Canyon-Parashant National Monument	Molecular and statistical analysis of fungi.
AZ	Grand Canyon-Parashant National Monument	wildlife: reptiles	USGS, UFSWS	Mojave Desert Tortoise Habitat Restoration	In an effort to better understand the Mohave Desert Tortoise and successful restoration techniques in burned Mojave Desert vegetation associations, the BLM, in cooperation with the USGS and FWS, has initiated a Mojave tortoise habitat restoration research project on eight separate post-fires sites in the Pakoon Basin.
AZ	Ironwood National Monument	archaeology	Arizona Site Stewards	Arizona Sites Stewards Cultural Resource Monitoring	Arizona Site Stewards assist the BLM with monitoring cultural properties.
AZ	Ironwood National Monument	archaeology	University of Arizona	Class III Cultural Resource Surveys	Surveys of cultural resources on the Monument.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Ironwood National Monument	botany	University of Arizona	Elephant Tree Population Study	A population of the elephant tree - a dioecious species - is being studied in the IFNM because the population may not have any male trees to pollinate the females, yet the population continues to survive. It is also the easternmost population of the species in Arizona.
AZ	Ironwood National Monument	botany		Elephant Tree Population Study	Elephant tree population study.
AZ	Ironwood National Monument	recreation: resource management	Student Conservation Associates	Mapping of Unofficial Foot Trails	Mapping unofficial foot trails and trash deposited along them.
AZ	Ironwood National Monument	recreation: resource management	BLM Internal	Shooting Analysis for IFNM	Analysis will be used to determine the feasibility of continued target shooting, given the management constraints and protected status of the IFNM.
AZ	Ironwood National Monument	sociology: economy	Sonoran Institute	Socio-Economic Studies	The Sonoran Institute is working on a variety of socio-economic issues.
AZ	Ironwood National Monument	wildlife	Arizona Desert Bighorn Sheep Society	Bighorn Sheep Project	Installation and repairing of water improvements and habitat for Desert Bighorn sheep.
AZ	Ironwood National Monument	wildlife populations	Arizona Game and Fish Department Department	Mountain Lion Wildland/Urban Interface	The Arizona Game and Fish Department is studying the Mountain Lion population along the wildland/urban interface throughout the state. One of the study areas is along the edge of the IFNM as well as other areas around the Tucson Basin.
AZ	Ironwood National Monument	wildlife: entomology	University of Arizona	Pollinator Study	Study of pollinators in the IFNM using repeat survey methodology of a study completed 20 years ago (prior to Africanized bees becoming established in the area).
AZ	Ironwood National Monument	wildlife: herpetology	University of Arizona	Tucson Shovel-nosed Snake Survey	Survey for Tucson Shovel nosed snake using standard herpetological survey methods of road searches and pit traps in known habitat.
AZ	Ironwood National Monument	wildlife: recreation: travel management	USGS; ArizonaGame and Fish Department	Road Density and Wildlife	Identify impacts from road densities on local wildlife populations, with an emphasis on birds.
AZ	Las Cienegas Nation Conservation Area	wildlife: avian	University of Arizona; USGS	Wintering Grassland Sparrows	Study of habitat use by wintering grassland sparrows.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Las Cienegas National Conservation Area	archaeology	Arizona Site Stewards	Cultural Site Monitoring	Cultural Site Monitoring.
AZ	Las Cienegas National Conservation Area	archaeology	Arizona Site Stewards	Arizona Site Stewards	Cultural properties are monitored by Arizona State Site Stewards in conjunction with BLM.
AZ	Las Cienegas National Conservation Area	archaeology: ethnology		Cienegas' Burial Data Recovery/Repatriation	Cienegas' Burial Data Recovery/Repatriation.
AZ	Las Cienegas National Conservation Area	botany	The Nature Conservancy	Upland Vegetation Monitoring	Upland vegetation monitoring.
AZ	Las Cienegas National Conservation Area	botany	University of Arizona; USGS	Flora of the Appleton-Whittell Audubon Research Ranch	Compile and maintain a complete list of flowering plants, ferns, and conifers on the Audubon Research Ranch.
AZ	Las Cienegas National Conservation Area	botany: riparian	The Nature Conservancy	Riparian Vegetation Monitoring at LCNCA	Riparian vegetation monitoring.
AZ	Las Cienegas National Conservation Area	botany: threatened & endangered	Southern University NY (SUNY)	Research and Reintroduction Effort for Huachuca Water Umbel	Transplant plugs and monitor success in order to protect listed species, and aid in development of recovery plan for species.
AZ	Las Cienegas National Conservation Area	botany: wildlife: entomology	California State University, Northridge; Clemson University, South Carolina	Floral Biology of Penstemon dasyphyllus and Other Penstemon Species on Appleton-Whittell Audubon Research Ranch	Collect and identify insects that feed on Eragrostis spp. and other plants to compare species composition with collections from NM, OK and TX.
AZ	Las Cienegas National Conservation Area	climate	USDA-ARS	Meteorological Station	Operate station jointly owned by Audubon Research Ranch and USDA in order to make baseline information on climate available to researchers and land managers of region.
AZ	Las Cienegas National Conservation Area	climate	NOAA	Long-term Meteorological, Evaporation and Carbon Flux Measurements	Establish a climate reference network site to characterize the water and carbon balance for a typical arid southwest grassland ecosystem. These data will be used to improve the current land use models for climate change.
AZ	Las Cienegas National Conservation Area	climate: ecology	Audubon Research Ranch	Precipitation at Ecological Sites	Establish range gages to correspond with Ecological Site Map (ESM): Robinett & Breckenfeld) in an attempt to correlate precipitation with changes in vegetation.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Las Cienegas National Conservation Area	climate: ecology	Audubon Research Ranch	Recording Precipitation with Data Loggers	Install tipping gages equipped with data loggers in key areas. Provide detailed information relevant to stream flows and changes in vegetation.
AZ	Las Cienegas National Conservation Area	ecology	The Nature Conservancy	Ecological Monitoring Program Development	Development and implementation of the ecological site monitoring program for the NCA. This also include vegetation treatment and invasive species monitoring.
AZ	Las Cienegas National Conservation Area	ecology	US Forest Service; Natural Resources Conservation Service; US Fish and Wildlife Service; National Park Service; Arizona Game and Fish Department; Arizona State Parks; Mexican Resource Agencies; Sonoran Institute; University of Arizona; Arizona Archaeological Society	Regional Monitoring Partnership	This regional monitoring partnership is focused on the Huachuca Grasslands complex within the Sonoran Desert ecorgeion. The focus is on border impacts, vegetation, fire effects, recreation, water, and avian species monitoring. A web-based data atlas is being developed to better share information.
AZ	Las Cienegas National Conservation Area	history: literature: bibliography	Volunteer	Annotated Bibliography of Selected Reports, Publications and Theses	Prepare annotated list/bibliography of publications of particular interest to Audubon Research Ranch in order to facilitate information exchange and document publications.
AZ	Las Cienegas National Conservation Area	hydrology	The Nature Conservancy	Water Quantity Monitoring	Water quantity monitoring, part of LCNCA Ecological Monitoring Program.
AZ	Las Cienegas National Conservation Area	hydrology	Audubon Research Ranch	Depth to Groundwater on Audubon Appleton-Whittel Research Ranch	Monitor the depth to groundwater of the wells on ARR; This study helps establish a water consumption baseline for the Sonoita Valley.
AZ	Las Cienegas National Conservation Area	rangeland health	The Nature Conservancy; University of Arizona	Vegetation Treatment Monitoring	Vegetation Treatment Monitoring.
AZ	Las Cienegas National Conservation Area	rangeland health	Saint Louis University; Audubon Research Ranch	Investigating the Effect of Livestock on the Physical Properties of Soil in an Arid Grassland	Collect water infiltration and soil compaction data on grazed and ungrazed land.

State	Unit	Discipline	Collaborator	Project Name	Project Description
AZ	Las Cienegas National Conservation Area	rangeland health	The Nature Conservancy; University of Arizona Range Club	Rangeland Monitoring Project	Evaluations of BLM's upland, riparian, hydrological, and wildlife will result in the synthesis and evaluation of existing data and evaluation of the effectiveness of current protocols to measure resource objectives, and to investigate and test alternative protocols.
AZ	Las Cienegas National Conservation Area	rangeland: botany	Sonoran Institute	Invasive Species Distribution Modeling and Inventory	Invasive species distribution modeling and inventory.
AZ	Las Cienegas National Conservation Area	rangeland: botany	Audubon Research Ranch	Ecological Site Monitoring (ESM)	Monitoring Avian Productivity and Survivorship (MAPS) stations established under guidelines of continent-wide program to provide critical conservation and management information for populations of land birds breeding within the United States and Canada. Post Canyon and Empire Gulch are two of over 500 stations. Birds are mist-netted, recorded, banded and released. Increases knowledge of land birds breeding within the US and Canada.
AZ	Las Cienegas National Conservation Area	rangeland: botany	Audubon Research Ranch	Photo-herbarium	Document life stages of plants found on the Audubon Research Ranch in order to develop baseline for future research, and creating vouchers for identification purposes.
AZ	Las Cienegas National Conservation Area	rangeland: botany	Audubon Research Ranch	Sacaton Rehabilitation	Re-establish Sporobolus wrightii in degraded sites. Improve wildlife habitat through bioremediation of sites dominated by exotic invasive bermudagrass.
AZ	Las Cienegas National Conservation Area	rangeland: botany	University of Arizona	Finding Effective Strategies for Adding Native Diversity into Heavily Invaded Grasslands	Re-introduce native plants into areas dominated by naturalized, non-native plants in order to increase proportion of palatable native plants.
AZ	Las Cienegas National Conservation Area	rangeland: botany	USDA, Agricultural Research Service	Introduction of Species Diversity into Boer Lovegrass Monocultures	Determine effectiveness of various methods to increase native biodiversity into monoculture created by non-native lovegrass.
AZ	Las Cienegas National Conservation Area	rangeland: soil	USDA, Agricultural Research Service; Audubon Research Ranch	Using Soil Moisture to Assess Ecosystem Function Following Exotic Lovegrass Invasion in Semiarid Grasslands of Southeastern Arizona	Measure soil moisture under Plains lovegrass (Eragrostis intermedia), a native species, and Lehmann lovegrass (E. lehmanniana), an exotic species. Determine whether a semiarid grassland retains its functional integrity following the invasion of an introduced, exotic grass.

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AZ	Las Cienegas National Conservation Area	riparian: fisheries		Assessing Condition of O'Donnell Creek	Use Proper Functioning Condition Standards to evaluate the condition of a portion of O'Donnell Creek.
AZ	Las Cienegas National Conservation Area	riparian: hydrology	Audubon, Babocomari Ranch; Coronado RDC	Babocomari River and Tributaries – Monitoring Conditions along Streamside, Cienega and Sacaton	Establish transects and monitor streamside conditions of Babocomari River, O'Donnell, and Turkey Creek. Results will enable sound management decisions to maintain and/or improve vegetation conditions on Babocomari Watershed.
AZ	Las Cienegas National Conservation Area	sociology: recreation	University of Arizona	Visitor Use Studies	Visitor use inventory, monitoring, and recreational impact study.
AZ	Las Cienegas National Conservation Area	wildlife	Sky Island Alliance; Audubon Society	Wildlife Tracking and Remote Camera Monitoring	Wildlife Tracking and remote camera monitoring.
AZ	Las Cienegas National Conservation Area	wildlife	USGS BRD	Habitat Selection by Wintering Grassland Sparrows	Habitat Use by wintering grassland sparrows.
AZ	Las Cienegas National Conservation Area	wildlife	Arizona Game and Fish Department	Beaver Habitat Suitability Assessment	Beaver habitat suitability assessment.
AZ	Las Cienegas National Conservation Area	wildlife	Arizona Game and Fish; Audubon Research Ranch	Leopard Frog Surveys	Survey for leopard frogs, primarily in Post Canyon area.
AZ	Las Cienegas National Conservation Area	wildlife	Virginia State University	Current Distribution and Status of Slevin's Bunchgrass Lizard, Sceloporus slevini, in Southeastern Arizona	Survey for bunchgrass lizard. Collect tissue for DNA analysis (tip of tail – no take) to compare intrapopulation and interpopulation genetic variance. Foundation for determining genetic relatedness of different populations and effects of bottlenecks on populations.
AZ	Las Cienegas National Conservation Area	wildlife	Virginia State University	Survey of Appleton-Whittell Research Ranch Drainages and Ponds for the Mexican Garter Snake	Survey for presence of Mexican garter snakes on ARR (Telles tank, O'Donnell Canyon, Post Canyon), and long-term study of population at Finley tank.
AZ	Las Cienegas National Conservation Area	wildlife	Sky Island Alliance	Wildlife Monitoring	Wildlife tracking and remote camera monitoring.
AZ	Las Cienegas National Conservation Area	wildlife: amphibian	Audubon Research Ranch	Bullfrogs: Monitoring and Treatment on the Appleton-Whittel Research Ranch	Discover and eradicate individuals within the boundary of the Audubon Research Ranch to protect native fish, reptiles, and amphibians from predatory, non-native species.

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AZ	Las Cienegas National Conservation Area	wildlife: amphibian	Arizona Game and Fish Department; US Army Corps of Engineers	Chiricahua Leopard Frog Protection and Reintroduction	Creation of nine acres of wetland habitat for Chiricahua leopard frogs, endangered Gila topminnow and endangered Huachuca water umbel. This project was accomplished with the Arizona Game and Fish Department who secured a $250,000 grand for wetland restoration funds from the Army Corps of Engineers.
AZ	Las Cienegas National Conservation Area	wildlife: amphibians	Private Land Owners	Non-native Species Control	Control of invasive non-native species such as bullfrogs and crayfish which threaten native populations of fish and frogs.
AZ	Las Cienegas National Conservation Area	wildlife: avian	Arizona Game and Fish Department; Research Ranch	Survey of Gould's Turkeys Near Huachuca Mountains	Track reintroduction success for Gould's Turkeys by estimating population. In FY08, turkeys were observed again at the Research Ranch, and for the first time at several locations in the northeast portion of the NCA and along Cienega Creek.
AZ	Las Cienegas National Conservation Area	wildlife: avian	Audubon Research Ranch	Avian Monitoring for Audubon Appleton-Whittel Research Ranch (ARR)	Establish transects to monitor bird species on Audubon Research Ranch; support Important Bird Area and examine long-term trends.
AZ	Las Cienegas National Conservation Area	wildlife: avian	Audubon Research Ranch	Christmas Bird Count, Appleton-Whittel Research Ranch	Conduct bird count per Audubon protocol: Pooled data yield important information on avian populations, movement and trends.
AZ	Las Cienegas National Conservation Area	wildlife: avian	Audubon Research Ranch	Wild Turkeys at the Audubon Appleton-Whittel Research Ranch	Record sightings of wild turkeys on ARR in order to document spread of subspecies introduced in Huachuca Mountains.
AZ	Las Cienegas National Conservation Area	wildlife: botany: fire	Audubon Research Ranch	Wildlife Responses to Fire	Response of rodents, birds, and vegetation to the Ryan Fire, Sonoita Valley, AZ: A unique opportunity to examine the ecological consequences of fire in grassland/savannas of the Arizona Borderlands.
AZ	Las Cienegas National Conservation Area	wildlife: entomology	Local Volunteer	Survey of High Desert Grasslands Hymenoptera	Study insect diversity in Southwest Arizona.
AZ	Las Cienegas National Conservation Area	wildlife: fisheries	The Nature Conservancy; University of Arizona	Aquatic Invasive Species Monitoring	Aquatic Invasive Species Monitoring.
AZ	Las Cienegas National Conservation Area	wildlife: fisheries	Arizona Game and Fish Department; Audubon Research Ranch	Fish Surveys	Conduct periodic surveys of the riparian systems of the Research Ranch and neighboring properties.

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AZ	Las Cienegas National Conservation Area	wildlife: fisheries	Arizona Game and Fish Department; Audubon Research Ranch	Pupfish Monitoring and Protection	Monitor and protect population of pupfish introduced into ranch stockponds and wildlife waters.
AZ	Las Cienegas National Conservation Area	wildlife: fisheries	University of Arizona	Predation Studies on Threatened and Endangered Aquatic Invertebrates in Southern Arizona	Predation effects on survival and recovery of threatened and endangered aquatic invertebrates in southern AZ
AZ	Las Cienegas National Conservation Area	wildlife: fisheries: habitat	The Nature Conservancy	Aquatic Habitat Monitoring	Aquatic habitat monitoring, a component of LCNCA ecological monitoring program.
AZ	Las Cienegas National Conservation Area	wildlife: hydrology	University of Arizona	Groundwater Influences on Riparian Avian Species	Groundwater influences on riparian avian species.
AZ	Las Cienegas National Conservation Area	wildlife: range: restoration	University of Arizona	Avian and Small Mammal response to vegetation treatments	Avian and Small Mammal response to vegetation treatments.
AZ	Las Cienegas National Conservation Area	wildlife: rangeland: fire	Eastern New Mexico University	The Effects of Fire and Grazing on Grassland Bird Diversity and Abundance in an Arizona Oak-Savanna	Re-survey bird diversity on oak transects established by Bock & Bishop after the Ryan fire.
AZ	San Pedro Riparian National Conservation Area	botany	Contractor	Surveys for Threatened and Endangered Species	This project continues to look at the presence and/or abundance of the threatened and endangered species that inhabit SPRNCA.
AZ	San Pedro Riparian National Conservation Area	wildlife: avian: ecology	University of Arizona; USGS Sonoran Desert Research Station	NDVI Habitat Model to Predict Breeding Birds on the San Pedro River	Evaluation to determine if a Southwest Willow Flycatcher (SWFL) habitat model can be applied to other species of riparian birds on the San Pedro River in southeastern Arizona by determining if correlations exist between the model's probability classes, bird community structure, and vegetation attributes across multiple years of data.
AZ	San Pedro Riparian National Conservation Area	wildlife: avian: ecology	The Institute for Bird Population	Molt-Migration Stopover Ecology and Habitat Requirements for USFWS Region 6 Land birds of Conservation Concern	Investigate the ecology of molt-migrants that stop in the "Mexican Monsoon Region" and begin to identify critical habitat requirements of their molt-migration-stopover sites.
AZ	San Pedro Riparian National Conservation Area	wildlife: avian: ecology	Southern Sierra Research Station	Surveys and Life History Studies of the Yellow-Billed Cuckoo	Establish yellow-billed cuckoo presence through surveys and nest searching.

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AZ	San Pedro Riparian National Conservation Area	wildlife: fisheries	Bureau of Reclamation	Non-native Fish Sampling	Fish sampling is being conducted under contract to the Bureau of Reclamation as part of their mitigation program for non-native fish concerns resulting from the Central Arizona Project.
AZ	San Pedro Riparian National Conservation Area	wildlife: mammals	USDA	Beaver Genetics	Analysis of beaver genetics.
AZ	San Pedro Riparian National Conservation Area	wildlife: reptiles	Arizona Game and Fish Department	Desert Box Turtle Monitoring Program in AZ	Desert Box turtle Monitoring Program in Arizona.
AZ	Sonoran Desert National Monument	air quality	Arizona State University	Twenty-Year Air Quality Study	Study effects of urban growth and air pollution on desert ecosystems on SDNM lands.
AZ	Sonoran Desert National Monument	archaeology	Arizona Site Stewards	Arizona Site Stewards	Volunteers assisting in site monitoring and protection.
AZ	Sonoran Desert National Monument	botany	Chicago Botanic Institute	Wildlife, Plants, and Ecosystems of the Sonoran Desert National Monument (SDNM)	Floristic studies in southern SDNM with high vegetation diversity.
AZ	Sonoran Desert National Monument	recreation	Northern Arizona University	Recreation Impacts	Inventory and provide baseline effects and study of recreation uses on natural ecosystems, including repeatable scheduled monitoring.
AZ	Sonoran Desert National Monument	wildlife	Arizona State University	Small Mammal Study	Study of small mammal density and feeding behavior.
AZ	Vermilion Cliffs National Monument	archaeology	Arizona State	Arizona Site Stewards	Site Stewards and Coordinators assist the BLM archaeologist in locating, recording, and monitoring cultural resource sites.
AZ	Vermilion Cliffs National Monument	archaeology	Kaibab-Vermilion Cliffs Heritage Alliance; Kaibab National Forest	Cultural Resource Inventory	Inventory for cultural resources on BLM and Forest Service land in and around VCNM in order to better understand and provide for their protection.
AZ	Vermilion Cliffs National Monument	geology	University of Utah	Contorted Bedding and Polygonal Weathering in Navajo Sandstone	A small radio-controlled airplane gathers aerial photographs of the sandstone formations in the White Pockets area of the Monument.
AZ	Vermilion Cliffs National Monument	paleontology	Northern Arizona University	Cenozoic Deposits	Assessment of the late Cenozoic deposits for at-risk paleontological resources. This assessment increases the ability to locate and evaluate fossils from Mesozoic fossiliferous rock deposits.

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AZ	Vermilion Cliffs National Monument	recreation	Northern Arizona University (NAU)	Recreational Impact Monitoring	Northern Arizona University (NAU) collects data documenting the impacts from recreational activities in VCNM. This information is used in setting and/or adjusting visitor use limits to protect natural and cultural resources (including wilderness values).
AZ	Vermilion Cliffs National Monument	wildlife: threatened and endangered species	Peregrine Fund; Arizona Game and Fish Department; US Fish and Wildlife Service; Grand Canyon National Park; Utah Division of Wildlife Resources; Kaibab National Forest	California Condor Restoration Project	Condor reintroductions, from 1996-present are conducted in partnership with the Peregrine Fund. The Fund also perform daily monitoring of condor behavior, movements, feeding, mortality, condor courtship and egg-laying, nesting, etc. The Condor Working Group is an active team working on the success of the reintroduction.
CA	California Coastal National Monument	botany	Mendocino Coast Audubon Society	Mendocino Coast Rare Plants	Select reconnaissance of the "hot spots" for rare terrestrial plants on CCNM rocks and islands.
CA	California Coastal National Monument	interdisciplinary	University of California, Santa Cruz; Stanford University	Rocky Intertidal Monitoring	Rocky intertidal monitoring.
CA	California Coastal National Monument	wildlife: conservation biology	The Sea Ranch Association CCNM Task Force (TSRA)	Sea Ranch Seabird Nesting Colonies Baseline Monitoring	Year-round monitoring of three CCNM islets: Gualala Point Island, Galleon's Arch and Black's Point Island. From set monitoring points for each islet and following established protocols, TSRA records seabird populations and activities at least once a month during the non-breeding period from September 1 - March 31 and once a week during the breeding season from April 1 - August 31. TSRA also maintains the monitoring data (record sheets, field notes, photographs, etc.) and provides high-quality quality control of data provided to BLM.
CA	California Coastal National Monument	wildlife: conservation biology	Madrone Audubon Society; Mad River Biologists, consultants	Gualala Point Island Monitoring Data Analysis	Interpret and analyze 2008 overflight data taken during the breeding season and during the intensive baseline monitoring data period to monitor seabird breeding success on Gualala Point Island.

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CA	California Coastal National Monument	wildlife: conservation biology	USFWS	Redding Rock Common Murre Restoration Project	Monitoring and determination of ways to help restore the Common Murre seabird colony on Redding Rock.
CA	California Coastal National Monument	wildlife: conservation biology	Humboldt State University (HSU), Natural Resources Planning & Interpretation Dept	Kure/Stuyvessant Seabird Disturbance Project	Assessment of human impacts on seabirds (e.g., cormorants and pelicans) and human attitudes toward seabird disturbance. Determination of appropriate messages and effective ways to communicate those messages and implement them (e.g., interpretive signage, law enforcement, and geotourism).
CA	California Coastal National Monument	wildlife: conservation biology	Laguna Ocean Foundation; Sea and Sage Audubon Society (Point Reyes Bird Observatory - PRBO)	Laguna Beach Water Bird Survey	Water bird survey of the Laguna Beach coast and near-shore environment. Bird Observatory and through the support and hard work of many volunteers associated with the local chapter of the Sea and Sage Audubon society the foundation has undertaken a year long shorebird assessment program to develop into a long term water bird monitoring program. On given days volunteers divide the coastline into 16 different segments and all water birds seen on the rocks and sand of Laguna Beach are counted. Http://lagunaoceanfoundation.org/pdfs/SB_0710.pdf
CA	California Coastal National Monument	wildlife: marine	NOAA-NMFS	Pinniped Project	Southwest Seal Rock Steller's Sea Lion Research Project.
CA	Carrizo Plain National Monument	botany	California Department of Fish and Game (CDFG); the California Native Plant Society (CNPS)	Vegetation Mapping Project	Vegetation mapping was conducted within the CPNM as part of a statewide project to update vegetation information. This project utilizes new methods and technology to provide more accurate mapping of the state's plant communities and their locations.
CA	Carrizo Plain National Monument	ecology: riparian	Sacramento State University	Ecology of Vernal Pools	Study of the diversity of producers and decomposers within vernal pools throughout the state of California.
CA	Carrizo Plain National Monument	wildlife	The Nature Conservancy; California Department of Fish and Game	Wildlife Monitoring	California Department of Fish and Game monitors wildlife species including elk and pronghorn. The Nature conservancy is providing expertise for science and research needs on the Monument.

State	Unit	Discipline	Collaborator	Project Name	Project Description
CA	Carrizo Plain National Monument	wildlife	California Department of Fish and Game (CDFG)	Tule Elk and Pronghorn Population Monitoring	Annual airplane flights to determine herd composition (January) and assess annual pronghorn fawn survival (July/August) and elk (November) are conducted. GPS locations have been recorded for all elk/pronghorn observed during flights since 2000.
CA	Carrizo Plain National Monument	wildlife: avian	San José State University, CA	Population Genetics of the Greater Roadrunner in the United States	DNA samples are collected from Greater Roadrunners as part of a population genetic study throughout the United States.
CA	Carrizo Plain National Monument	wildlife: threatened and endangered species	University of California, Berkeley; US Dept. of Agriculture (USDA); The Nature Conservancy (TNC); California Department of Fish and Game (CDFG)	The Role of Native Rodents (Giant Kangaroo Rat) in Determining Abundance, Distribution and Colonization of Invasive Plants in Western Rangeland	Begun in 2007, this study will determine the effect of a keystone species, the giant kangaroo rat, on the abundance and distribution of native and invasive plants in a California grassland/rangeland, the Carrizo Plain. The study also considers what impacts livestock grazing may have on giant kangaroo rats. Finally, it examines how both giant Kangaroo rats and cattle may be affecting other species in the system such as rodents, birds, insects, and predators.
CA	Carrizo Plain National Monument	wildlife: threatened and endangered species	University of California, Berkeley; The Nature Conservancy (TNC); California Department of Fish and Game (CDFG)	Giant Kangaroo Rat: Mapping and Habitat Modeling Through the Use of Satellite Imagery	Satellite imagery used as a non-invasive method to count giant kangaroo rats and to better understand their interactions with the surrounding landscape.
CA	Carrizo Plain National Monument	wildlife: threatened and endangered species	California Department of Fish and Game (CDFG)	San Joaquin Kit Fox Spotlighting Surveys	Quarterly road surveys are run on two routes within the Monument for the San Joaquin kit fox.
CA	Headwaters Forest Reserve	archaeology	Humboldt State University; Bear River Band of Rohnerville and Wiyot Tribes	Saddle Ridge Cultural Site	Conduct shovel test pits to identify the subsurface extent of the cultural deposits and locate any diagnostic artifacts in an effort to make a valid determination of eligibility of sites for inclusion on the National Register of Historic Places.

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CA	Headwaters Forest Reserve	hydrology: watershed: restoration	Pacific Coast Fish Wildlife; Wetlands Restoration Association	Watershed Restoration	Abandoned logging roads and stream crossings within the Reserve are the largest threats to high quality salmon habitat. Removal of roads is essentially reversing the process of road construction; fill material is pulled out of, or away from, stream channels, placed in dump trucks, and hauled to stable locations away from streams. This type of restoration requires the use of heavy equipment such as excavators, bulldozers, and dump trucks.
CA	King Range National Conservation Area	botany	Mattole Restoration Council	Native Bunchgrass Propagation and Restoration	Collection and propagation of native bunchgrass seeds. Transplanting of grass plugs for post-fire rehabilitation. Http://www.mattolesalmon.org/partners.html
CA	King Range National Conservation Area	hydrology: wildlife: fisheries	USGS California Cooperative Fisheries Research Unit; Humboldt State University; National Marine Fisheries Services Southwest Science Center	Lost Coast Stream Processes and Fisheries	Study of the fish populations, stream habitat, and water quality of 12 larger coastal Lost Coast streams.
CA	King Range National Conservation Area	marine biology	NOAA; California Department of Public Health; Southern Humboldt Unified School District; Mattole Restoration Council's Ecological Education Program	Phytoplankton Monitoring Program	Monitor marine phytoplankton and harmful algal blooms.
CA	King Range National Conservation Area	marine biology	Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO)	Tide pool Monitoring	Monitor ecological and oceanographic processes affecting tide pool communities.
CA	King Range National Conservation Area	wildlife: fisheries	Mattole Salmon Group	Pacific Salmon Monitoring	Monitoring of three Pacific salmon federally listed as "threatened" under ESA. Monitoring includes spawner counts, adult steelhead summer surveys, water temperature monitoring, and downstream migrant surveys.

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CA	Santa Rosa and San Jacinto Mountains National Monument	acoustical monitoring		Optical Fiber Infrasound Sensor (OFIS)	This advanced sensor array is part of a network that will monitor infrasonic soundwaves (0-20 Hz) and various atmospheric and anthropogenic phenomena. Example sources include meteors, tornadoes, wave swells, earthquakes, rocket and spacecraft launches/re-entries, and atmospheric nuclear tests. This is part of a network (of more than 300 sites) established by the United National International Monitoring System after the approval of the Comprehensive Test-Ban Treaty (CTBT) in 1996. These sites conduct seismological, hydroacoustic, radionuclide, and infrasound monitoring.
CA	Santa Rosa and San Jacinto Mountains National Monument	botany		Physiology of Succulents	Physiology of Succulents.
CA	Santa Rosa and San Jacinto Mountains National Monument	ecology		Physiological, Demographic, Competitive, and Biogeochemical Controls on the Response of California's Ecosystems to Environmental Change	Research focuses on high-value ecosystems in a region where climate change is expected to have a major impact. Four considerations underscore the importance and relevance of this research: 1) Southern California provides an excellent natural laboratory for understanding how climate controls ecosystem function; 2) Southern California's location at the edge of the mean winter storm track and exposure to climate variability associated with the ENSO (El Niño/Southern Oscillation) and PDO (Pacific Decadal Oscillation) increase the likelihood of pronounced future climate change; 3) Southern California's semiarid climate and steep climate and vegetation gradients increase the likelihood that a change in climate will have a major impact on California's ecosystems; and 4) The tight link between climate, ecosystem function, and natural disasters in Southern California increases the likelihood that climate change will result in large socioeconomic impacts.
CA	Santa Rosa and San Jacinto Mountains National Monument	wildlife	Bighorn Institute; California Department of Fish and Game	Health and Demography of the Peninsular Bighorn Sheep	Health and Demography of the Peninsular Bighorn Sheep.

State	Unit	Discipline	Collaborator	Project Name	Project Description
CA	Santa Rosa and San Jacinto Mountains National Monument	wildlife		Mountain Lion Ecology	Mountain Lion Ecology.
CA	Santa Rosa and San Jacinto Mountains National Monument	wildlife		Hybridization of Quail Species	Hybridization of Quail Species.
CA	Santa Rosa and San Jacinto Mountains National Monument	wildlife: herpetology	University of California, Boyd Deep Canyon Desert Research Center (a unit of the University of California's Natural Reserve System, this Reserve is also part of the United Nations Mojave and Colorado Desert Biosphere Reserve)	Population Biology of the Coachella Valley Fringe-toed Lizard	Study on the population biology of the Coachella Valley Fringe-toed Lizard.
CA	Santa Rosa and San Jacinto Mountains National Monument	wildlife: herpetology	Boyd Deep Canyon Desert Research Center (a unit of the University of California's Natural Reserve System)	Rattlesnake Ecology	Rattlesnake Ecology.
CO	Canyons of the Ancients National Monument	archaeology	Kelly Place Elderhostel Service	Cannonball Mesa Eldershostel Survey	Inventoried 40 acres and recorded three sites (including an extensive lithic procurement site) on Cannonball Mesa, near Cannonball Pueblo.
CO	Canyons of the Ancients National Monument	archaeology	Contractor	McLean Basin in the Cross Canyon WSA	3150 Acres of Class III cultural resource inventory completed in 2008.
CO	Canyons of the Ancients National Monument	archaeology	National Science Foundation	The Village Project	This National Science Foundation-funded project involves scientists and educators from all over the United States. Computer simulation utilizing data about known sites will clarify the relationships among climate, culture, and human behavior that resulted in village formation and depopulation in the Mesa Verde Region of Colorado between A.D. 600 and A.D. 1300.
CO	Canyons of the Ancients National Monument	archaeology	Crow Canyon Archaeological Center	Study of Obsidian Utilizing X-ray Fluorescence	Study of obsidian utilizing X-ray Fluorescence to determine source locations.

State	Unit	Discipline	Collaborator	Project Name	Project Description
CO	Canyons of the Ancients National Monument	archaeology: botany: wildlife: climate change	Crow Canyon Archaeological Center	Flotation Sample Studies	Flotation sample studies.
CO	Canyons of the Ancients National Monument	archaeology: chemistry	Texas A&M	X-ray fluorescence spectrometer pigment studies	Dr. Marvin Rowe, Texas A&M chemist, and Sally Cole continued research utilizing a portable X-ray fluorescence spectrometer to determine chemical content of pigments on ceramics and painted plaster from Lowry Pueblo, the Ida Jean site, and several other Monument sites. Data collected on mineral composition have been added to the site records.
CO	Canyons of the Ancients National Monument	archaeology: wildlife	Crow Canyon Archaeological Center	Turkey DNA Study	Turkey DNA study.
CO	Canyons of the Ancients National Monument	wildlife: reptiles	Colorado Natural Heritage Program	Longnose Leopard Lizards and Collared Lizards Behavioral Studies	Continuation of habitat and sensitive threatened and endangered species surveys. Of particular interest are projects related to the longnose leopard lizard. In 2008, transmitters were placed on longnose leopard and collared lizards to continue habitat documentation to study the competition between the species.
CO	Gunnison Gorge National Conservation Area	archaeology	Western Wyoming College	Gunnison Rock Art Site	Western Wyoming College is conducting inventories and excavation at an NCA rock art site. Prehistoric deposits and archaeological remains dating back over 3,000 years are being analyzed and curated at the College.
CO	Gunnison Gorge National Conservation Area	botany: riparian: restoration: recreation: fisheries	BLM - Montrose FO	Gunnison River Restoration Project - BLM Healthy Lands Initiative and Clean Water Restoration Act	In Spring 2008, contractors planted 1,100 cottonwood poles, and 3,500 willow cuttings at eleven sites in the NCA. Project followed specifications outlined in USDA Technical Notes on riparian restoration projects. Early results showed vigorous growth on nearly all the plantings. Setbacks occurred in late spring when high water caused root rot killing nearly all of the cottonwoods and beaver removed most of the willow cuttings.

State	Unit	Discipline	Collaborator	Project Name	Project Description
CO	Gunnison Gorge National Conservation Area	geology	State of Colorado; Colorado Geological Survey; Mesa State College	STATEMAP Program	Soil mapping of NCA Mancos shale areas. Work assisted by geology student intern from Mesa State College in Grand Junction.
CO	Gunnison Gorge National Conservation Area	geology: hydrology: biological sciences	U.S. Geological Survey; USFWS; Bureau of Reclamation; Gunnison Basin Selenium Task Force; Colorado River Basin Salinity Control Forum; Grand Valley Selenium Task Force	USGS Mancos Shale Landscapes Project	Multi-disciplinary, 5-year project covering the Upper Colorado River Basin. Studies included: regional geochemistry; geologic and soil mapping, digital elevation and GIS modeling; soil and rock mineralogy; remote sensing and LIDAR; landscape classification; erosion processes; and inventories of Mancos vegetation communities. 2008 work involved ongoing LIDAR imagery work, data compilation, report writing, and presentation of project results to BLM for further analysis and development of best management practices (BMP) for the NCA's 22,000 acres of Mancos shale landscapes.
CO	Gunnison Gorge National Conservation Area	geology: hydrology: biological sciences	GeoCorps America Intern Program, Geological Society of America (GSA)	Salinity Check Dam Study	Intern project included inventory and mapping of 900+ salinity control check dams in the NCA's Mancos Shale.
CO	Gunnison Gorge National Conservation Area	recreation: wilderness	Northern Arizona University (NAU)	NAU/BLM Human Impact Study	Recreation Program professor and graduate students assisted in inventory and analysis on-the ground human impacts in the Gunnison Gorge Wilderness and Gunnison River corridor.
CO	Gunnison Gorge National Conservation Area	recreation: wilderness	University of Idaho	Survey of Recreation Users in Gunnison Gorge NCA	Visitor satisfaction survey conducted in the Gunnison Gorge Wilderness was mandated under the Government Performance and Results Act (GPRA) and addresses BLM's goals for providing quality recreation experiences and receiving fair value in recreation.
CO	Gunnison Gorge National Conservation Area	wildlife: fisheries	Colorado Department of Wildlife; USFWS; Trout Unlimited	Rainbow Trout Recovery Program	Rainbow trout recovery program to restore Gunnison Gorge's world-class trout fishery. Involves cross-breeding, stocking whirling disease-resistant variety of trout, and user education.

State	Unit	Discipline	Collaborator	Project Name	Project Description
CO	Gunnison Gorge National Conservation Area	wildlife: threatened and endangered species	Colorado Department of Wildlife; Colorado Bat Working Group; Colorado University Boulder; University of Northern Colorado	Bat Survey	Survey of bat species in the Gunnison River corridor and Gunnison Sage-Grouse ACEC. Study included mist-netting surveys, acoustic monitoring, and report writing.
CO	Gunnison Gorge National Conservation Area	wildlife: travel management: recreation: sensitive species	U.S. Geological Survey primary; NPS; USFS; CDOW; USFWS	USGS Study on Effects of Roads and Traffic on Wildlife Habitat Use	Cooperative study using GPS transmitters and traffic monitors to understand the effects of traffic on big game (in particular elk) migration routes and Gunnison sage grouse habitats in the Gunnison Basin area. In 2009-2010, plans are to outfit Gunnison sage grouse with small backpack transmitters to monitor their movements. The transmitters will first be tested on pheasants that are close to grouse in size, to ensure they will not adversely impact the grouse.
CO	McInnis Canyon National Conservation Area	ecology	Mesa State College	Opal Hill Restoration Ecology Project	Students from a Mesa State College Ecological Restoration course spend a semester working on a rehabilitation plan for one of the more heavily-impacted areas of MCNCA.
CO	McInnis Canyon National Conservation Area	paleontology	Museum of Western Colorado	Excavation of C-60150b	Excavations at the Fruita Paleontological Area in the "Main Quarry" and the "Tom's Place Quarry".
CO	McInnis Canyon National Conservation Area	paleontology	Museum of Western Colorado	Excavation of C-60150b2	Excavations at the Fruita Paleontological Area in the "Kirkland Nest" locality.
CO	McInnis Canyon National Conservation Area	paleontology	Museum of Western Colorado	Collection of C-60150c	Surface collection in the MCNCA of paleontological specimens.
ID	Craters of the Moon National Monument	archaeology	Contractors: Golder Associates; Northwind Environmental	Cultural Resources Surveys - Minidoka Fuel Break, Laidlaw Park and Little Park	Approximately 500 acres were inventoried on the south end of the Monument for the Minidoka Fuel Break project. In addition an 8,700-acre range restoration project in Laidlaw Park was inventoried. A smaller, 400-acre fire rehabilitation project in Little Park was inventoried by the BLM.
ID	Craters of the Moon National Monument	archaeology		Section 110 Cultural Resource Survey	100 acres of Section 110 inventory were conducted. Several previously unrecorded sites were recorded.
ID	Craters of the Moon National Monument	archaeology	Volunteer, Carolynne Merrell	Rock Art at Black Widow Cave	Volunteer Carolynne Merrell photographed rock art at Black Widow Cave.

State	Unit	Discipline	Collaborator	Project Name	Project Description
ID	Craters of the Moon National Monument	archaeology: geology		The Impact of Holocene Fissure Eruptions on Obsidian Source Use in Southeastern Idaho	"Going with the Flow: The Impact of Holocene Fissure Eruptions on Obsidian Source Use in Southeastern Idaho" will be published in the Journal of California and Great Basin Archaeology (winter 2008-09). The paper by Dr. L. Suzann Henrikson is based on obsidian sourcing studies funded by the BLM and is focused on the archaeology of the Craters of the Moon National Monument.
ID	Craters of the Moon National Monument	botany		Monitoring Picabo Milkvetch	Monitored the known population of Picabo milkvetch, a BLM Sensitive plant species in the Craters of the Moon National Monument.
ID	Craters of the Moon National Monument	botany		A 40-acre monitoring exclosure will be constructed in the fall of 2008 within the Bear Den Butte BAR project area. Monitoring will be established within and outside the exclosure fire in the spring of 2009	A 40-acre monitoring exclosure will be constructed in the fall of 2008 within the Bear Den Butte BAR project area. Monitoring will be established within and outside the fire exclosure.
ID	Craters of the Moon National Monument	botany		Documentation Vascular Flora - Craters of the Moon National Monument	A four-year effort to document the Monument's vascular flora was completed in early 2008. The total number of vascular plant taxa (including subspecies, varieties, and forms) known to be present in CMNM based upon verified specimens is 752, representing 77 plant families. Almost 2,500 new specimen records were added to the CRMO herbarium (totaling over 3,000) and a NPS database (NPS species) now contains over 1,300 taxon records. Publication of a vascular plant checklist is under consideration.
ID	Craters of the Moon National Monument	botany		Nonvascular Plant Survey - Craters of the Moon National Monument	Nonvascular Plant Survey – A field survey of nonvascular plants focused on four "kipukas" (an area of land surrounded by one or more younger lava flows) designated as Research Natural Areas in 2007. This work resulted in the completion of a preliminary non-vascular checklist and the addition of approximately 100 voucher specimens to the CRMO herbarium in 2008.

State	Unit	Discipline	Collaborator	Project Name	Project Description
ID	Craters of the Moon National Monument	botany: bio-control		Bio-control Agent Release	In 2007 the Twin Falls District weed crew released bio-control agents in 7 separate locations in the leafy spurge project located on BLM as well as in the Monument (120 Oberia & 50,000 Apathona). In 2008, when we revisited these sites there was evidence that the agents had survived the winter and we could see some damage to the leafy spurge.
ID	Craters of the Moon National Monument	botany: fire	Colorado State University	Suppression of Weedy Invasive Species in Post-fire Habitats	Establishment of a research plot in the Bear Den Butte fire. Suppression of weedy invasive species using native annual plant species.
ID	Craters of the Moon National Monument	botany: invasives	Colorado State University; Joint Fire Science	Native Plants and Suppression of Weedy Invasive Species in Post-fire Habitats	Colorado State University researchers are studying the use of native annual plant species to suppress weedy invasive species in post-fire habitats within Craters of the Moon National Monument. Their study will investigate whether establishing early seral native plant species, specifically annual species, will improve the establishment of native perennial plants. The study will also try to determine if native annual plant species can compete with invasive annual grasses more effectively than seeded perennial native plant species. The results of this study will expand the understanding of vegetation manipulation and rehabilitation techniques that contribute to the successful establishment of native plant communities.
ID	Craters of the Moon National Monument	climate	NPS; National Atmospheric Deposition Program (since 1980); Mercury Deposition Network (since 2006); IMPROVE (visibility – since 2001); Ozone (since 1992); the Climate Reference Network (NOAA – since 2004); U.S. Department of Energy	Air Quality and Climate Change	The NPS continued monitoring air quality on Craters of the Moon National Monument through the National Atmospheric Deposition Program, Mercury Deposition Network, IMPROVE (particulate matter effecting visibility), Ozone, and the Climate Reference Network (NOAA).

State	Unit	Discipline	Collaborator	Project Name	Project Description
ID	Craters of the Moon National Monument	geology: caves	Geological Society of America Geocorps Program	Grassy Cone Lava	Analysis of 29 cores from Grassy Cone area resulting in a website with plain text, diagrams, and photographs that show common features of basaltic lava. Also, grid inventory of NPS northeast section of Monument resulted in 11 new caves recorded. The BLM and NPS cave databases are also now merged.
ID	Craters of the Moon National Monument	geology: caves	Volunteers	Cave Inventory	Nearly 5,000 acres were inventoried for caves by local volunteers from the Silver Sage cave grotto and Gem State cave grotto. One new cave was reported to the BLM.
ID	Craters of the Moon National Monument	geology: caves	GeoCorps, Geological Society of America; National Park Service (NPS)	Cave Inventory	A Geological Society of America GeoCorps Program intern, in coordination with the NPS GeoCorps intern and a host worker from the Women Geologists of America, conducted inventory in the northeast of the Monument and documented 12 new cave locations. Pacific tree frogs were found in two. Interns worked over the summer to grid and inventory NPS lava flows in the northeastern part of the Monument for caves. In addition, these interns completed analysis of 29 lava Grassy Cone lava flow cores. Evidence of a second flow was found in the deepest core (~6 meters).
ID	Craters of the Moon National Monument	history	California State University, Bakersfield	Oral History Study of Historic Ranching in the Craters of the Moon National Monument	An Oral History Study of historic ranching in the Craters of the Moon National Monument, which was conducted by California State University, Bakersfield, in FY07. A draft Oral history report was presented to the BLM in July 2008 and was finalized by September. The results were also presented at the Great Basin Archaeological Conference in October 2008 in Portland, Oregon. The Gooding Basque Association is interested in continuing this project.

State	Unit	Discipline	Collaborator	Project Name	Project Description
ID	Craters of the Moon National Monument	wildlife	Idaho Department of Fish and Game; Wildlife Conservation Society	Lost River Sinks	Sage grouse and pronghorn make long distance migrations from winter grounds on the Snake River Plain to summer habitats in mountain foothills and valleys to the north. Due to the undisturbed nature of the landscape, it is one of the remaining strongholds for species such as sage grouse, pygmy rabbits, big horn sheep, and Great Basin rattlesnakes. Identifying and protecting movement corridors for these species are important for maintaining ecological integrity in the Lost River Sinks Landscape. Wildlife Conservation Society (WCS) is conducting movement studies on both species to identify important movement corridors. Results from these studies will update BLM habitat management plans and guide land acquisition efforts in the region. WCS began tracking both grouse and pronghorn movements in 2008 and will continue to study movements through 2010.
ID	Craters of the Moon National Monument	wildlife	Idaho Department of Fish and Game; Wildlife Conservation Society	Lost River Sinks Pygmy Rabbit Distribution and Status in South Central Idaho	Broad-scale ground surveys and models of pygmy rabbit distribution to determine their status and their habitat condition. Results from this study will address key needs outlined in the Idaho Comprehensive Wildlife Conservation Strategy including an understanding of pygmy rabbit distribution and spatial connectivity.
ID	Craters of the Moon National Monument	wildlife	Lava Lake Institute for Science and Conservation; Idaho Department of Fish and Game	Pronghorn Migration Study	Track pronghorn migration in and around Craters of the Moon National Monument. Ten female antelope were radio-collared by Lava Lake and Idaho Department of Fish and Game employees in 2008 and were tracked for 10 months to identify migration routes and document seasonal use.
ID	Craters of the Moon National Monument	wildlife		American Pika Inventory	Pika Surveys: America pika are small mammals related to rabbits commonly associated with alpine areas but also occur on the Craters of the Moon lava fields. Disappearances of pika populations throughout the Great Basin have been associated with a warming climate.
ID	Craters of the Moon National Monument	wildlife: avian		Monitoring Breeding Birds and Burrowing Owls	Monitoring Breeding Birds and Burrowing Owls.

State	Unit	Discipline	Collaborator	Project Name	Project Description
ID	Craters of the Moon National Monument	wildlife: avian		Point Count Surveys for Sensitive Passerine Birds	Continuation of point count surveys for BLM Sensitive passerine birds in both vegetation treatment areas and control sites in and adjacent to the Craters of the Moon National Monument.
ID	Craters of the Moon National Monument	wildlife: avian	Idaho Department of Fish and Game	Aerial Surveys for Craters of the Moon Sage-grouse Winter Range	Aerial surveys were conducted to determine the current boundaries of winter range for BLM sensitive greater sage-grouse in and adjacent to the Craters of the Moon National Monument.
ID	Craters of the Moon National Monument	wildlife: reptiles: amphibians	Idaho Department of Fish and Game	BLM Sensitive Reptile and Amphibians Surveys in Craters of the Moon National Monument	BLM Sensitive Reptile and Amphibians Surveys in Craters of the Moon National Monument.
ID	Snake River Birds of Prey National Conservation Area	archaeology	Volunteers, Dr. Carolynne Merrill	Wees Bar Petroglyphs Documentation	Volunteers documented the condition of Native American petroglyphs at Wees Bar along the Snake River in the NCA. Documentation of the current condition of each petroglyph panel and their contextual relationship. Although Wees Bar gets significant visitation, the petroglyphs are in surprisingly good condition.
ID	Snake River Birds of Prey National Conservation Area	archaeology	Idaho Power	Guffey Butte-Black Butte Archaeological District Re-inventory	A re-inventory was completed of approximately 26,000 acres within the Guffey Butte–Black Butte. Archaeological District portion of the Snake River Canyon, as part of their FERC relicensing application process for the Swan Falls Dam. They noted a general decline in cultural resource conditions due to vandalism and recreational activity.
ID	Snake River Birds of Prey National Conservation Area	archaeology	Idaho Army National Guard	Orchard Training Area Cultural Resource Site Inventory and Monitoring	The Idaho Army National Guard monitored 12 known cultural sites within the Orchard Training Area and found that military training activities are having few, if any, impacts on the sites. They also inventoried 6200 acres for cultural resources and located one new site that contained rare and important Shoshone Brownware pottery sherds.

State	Unit	Discipline	Collaborator	Project Name	Project Description
ID	Snake River Birds of Prey National Conservation Area	botany	Oregon State University, Agricultural Research Service, Dr. Roger Sheley	Vegetation Treatment	The Agricultural Research Service at Oregon State University, is conducting vegetation treatment trials on a wildfire rehabilitation project south of Mountain Home, Idaho to determine how best to establish perennial plants and combat invasive annuals weeds in a low rainfall zone.
ID	Snake River Birds of Prey National Conservation Area	botany trials on a wildfire rehabilitation	Southern Illinois University, Dr. Susan Meiers	Reseeding Trials of Slickspot Peppergrass, Using Laboratory Grown Seeds	Southern Illinois University, is conducting field-based reseeding trials of slickspot peppergrass, using seeds grown in the laboratory.
ID	Snake River Birds of Prey National Conservation Area	wildlife: avian	USGS Boise State University	Regional Nest Occupancy and Production of Golden Eagles and Prairie Falcons	USGS and Boise State University raptor biologists are continuing to annually collect nest occupancy and production data on golden eagles and prairie falcons both within and outside the NCA to provide insights into the effects of habitat degradation and resulting prey population fluctuations. These data represent some of the longest continuous raptor population datasets available.
ID	Snake River Birds of Prey National Conservation Area	wildlife: avian	Boise State University	Nesting Success of Burrowing Owls	This study focuses on increasing the nesting success of burrowing owls by developing man-made burrows.
ID	Snake River Birds of Prey National Conservation Area	wildlife: avian	Volunteers	Monitoring Nesting and Productivity Success for western Screech-owls, Northern Saw-whet Owls, and Ferruginous Hawks	Annual maintenance and repairs of over 120 nest boxes for western screech-owls and northern saw-whet owls, and over 20 nest platforms for ferruginous hawks. At the same time, monitoring for their nesting success and productivity, and bands the young.
ID	Snake River Birds of Prey National Conservation Area	wildlife: lepidoptera	Boise State University	Slickspot Peppergrass Pollinators	Research on slickspot peppergrass insect pollinators to identify which insects provide the greatest pollination benefit. This research will allow better management of the pollinater insect's habitat.
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	archaeology	Contractor	Class I Overview of the Lewistown Field Office	Class I Overview of the Lewistown Field Office, including the Monument, to capture the known information on the history, prehistory, and paleontology of the area.

State	Unit	Discipline	Collaborator	Project Name	Project Description
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	archaeology	Contractor	Cultural Resource Survey	In 2008, 3,991 acres of cultural resource inventory was conducted under contract in the Arrow Creek Breaks within the Monument. No prior inventories had been completed in this eight section area because of limited development in the area. Intensive inventory of this steep and rugged country identified no new sites. While the reports are disappointing they are not surprising, and seem to confirm our existing site probability models. This inventory covered over 1% of the Monument, increasing our total coverage of the Monument to approximately 17%.
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	botany: invasives	Pennsylvania Power and Light, Montana	Russian Olive Eradication	Removal of invasive Russian olive from selected riparian sites on the Upper Missouri River.
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	botany: riparian	USGS	Woody Species Trend Data Collection	Through an ongoing collaborative project with the USGS, BLM continues to monitor the condition and trend of riparian woody species throughout the Upper Missouri Corridor.
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	hydrology: botany: geology		Baseline Data Collection for Water Flow, Vegetation, and Morphology	On Arrow Creek and the Judith River, BLM is collecting flow, vegetation, and morphology baseline data as part of an effort to quantify the Federal Reserved water rights on Arrow Creek and the Judith River.
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	paleontology	Macalester College	Paleontological Site Distribution from PN Bridge to Powerplant	A study of the distribution of paleontological and geological sites of interest along the Missouri River corridor from PN Bridge to Powerplant Ferry, with sampling of sediment for taphonomic, geologic, and taxonomic characterization.
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	paleontology		Paleontology Resources Survey	In 2008 paleontologists working in the Monument completed 28 acres of paleontological inventory. One fossil-bearing locality was documented by BLM employees as well.
MT	Upper Missouri River Breaks and Pompeys Pillar National Monument	riparian: restoration	United States Geological Survey	Cottonwood Study	This study looks at the factors controlling cottonwood establishment, recruitment, and survivalship on the constrained reach of the Missouri River through the Upper Missouri River Breaks National Monument.

State	Unit	Discipline	Collaborator	Project Name	Project Description
NM	Kasha-Katuwe Tent Rocks National Monument			No Research Projects Reported for Unit	
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	archaeology	Desert Research Institute (DRI); University of Nevada, Reno	Sundance Archaeology Project	Archaeological surveys for the purpose of discovering and recording prehistoric early-man desert sites. Emphasis is on searching for sites with buried components, which have a higher potential for having intact features and perishable items, which in turn would yield valuable subsistence data and chronological information.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	archaeology: history	University of Nevada Reno	Rabbit Hole Field School	An archaeology field school focused on historic resources is conducted each year near Rabbithole Springs. Inventory and excavation of Great Depression era gold mining camps in the vicinity of Rabbithole.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	archaeology: history	Trails West; California-Nevada Chapter of the Oregon-California Trails Association	Double Hot Springs Archaeological Inventory	Archaeological inventory and site recording at the historic Double Hot Springs along the Applegate and Nobles National Historic Trails. Volunteers continue to locate and mark the California Trail from southern Idaho to its various destinations in California.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	archaeology: history	High Rock Trekkers	Fox Homestead	This volunteer effort works to rehabilitate and stabilize the historic Fox Homestead.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	archaeology: history	Nevada Outdoor School (NOS)	High Rock Canyon-Yellow Rock Garage	Replaced roof rafters and top roof layer. Cleared defensible fire space.

State	Unit	Discipline	Collaborator	Project Name	Project Description
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	geology: biology: hydrology	Desert Research Institute (DRI); University of Nevada, Reno	Playa Dynamics Study	Study of the dynamics of the vast Black Rock Desert Playa, what it is made of, how dunes are formed, what evidence is present of living organisms, and determining human impact, and opportunities to mitigate conflicts. This research will answer questions about the forces that influence the condition of the playa. Preliminary findings indicate that heavy levels of vehicle use impact eggs of native aquatic macro-invertebrates that occur on the dry playa between wetting events. Additionally, much of the observed transient dune formation is due to natural processes that are somewhat enhanced by increased recreational OHV use.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	Monitoring Studies	Nevada Outdoor School (NOS)	Burning Man, August 22-26, 2008	Monitoring was conducted after Burning Man in 2008 by the Nevada Outdoor School.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	recreation	Nevada Outdoor School (NOS)	Calico Wilderness Area	Inventory of springs and recreation campsites.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	recreation: restoration	Nevada Outdoor School (NOS)	Soldier Meadows	Improvements at the Soldier Meadows campground included installation of gabions built to protect the desert dace, a rare cyprinid fish known only from the warm springs and creeks of Soldier Meadow in western Humboldt County, Nevada. It is notable not only for its restricted range, but for the ability to live in waters as warm as 38 degrees Celsius. Basalt cinquefoil was transplanted, a trespass road was rehabilitated, and the trail was improved.
NV	Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area	wilderness	Nevada Outdoor School (NOS)	E. Fork High Rock Canyon Wilderness, Pole Canyon Wilderness Monitoring	Inventoried two historic homesteads. GPS'd campsites and monitored impacts.
NV	Red Rock Canyon National Conservation Area			No Research Projects Reported for Unit	

State	Unit	Discipline	Collaborator	Project Name	Project Description
NV	Sloan Canyon National Conservation Area	geology: volcanology	University of Las Vegas Nevada	Sloan Canyon Volcanic History	The UNLV Geology department continued research to characterize the volcanic history of Sloan. This information will support trail lay out and understanding the geologic make-up of the region will aid in the development of interpretative displays.
NV	Sloan Canyon National Conservation Area	wildlife	Western Ecological Service Center	Sloan Canyon Wildlife Monitoring	Two contracts with USGS Western Ecological Service Center to monitor reptiles and bighorn sheep were concluded in 2008. The herpetological research was conducted to determine any noticeable impacts to reptilian communities in relation to human disturbance. The bighorn sheep study served to characterize genetic diversity within the Sloan Canyon bighorn sheep population and determine the level and extent of migration between sheep in Sloan Canyon NCA and neighboring populations.
OR	Cascade Siskiyou National Monument	botany	Southern Oregon University, Darlene Southworth Ph.D. emeritus	Oak Woodland, Shrubland and Grassland Composition and Structural Surveys	Forest stand surveys including plant composition, hardwood structure (branching and diameter-at-breast-height, and stand age) will facilitate understanding of past fire behavior on hardwood dominated ecosystems of the Monument. Create geospatial database in GIS.
OR	Cascade Siskiyou National Monument	botany: fire	Southern Oregon University Dept of Botany and Plant pathology, Pat Muir, Ph.D.	Joint Fire Science Program Fuels Reduction in Oak Woodlands, Shrublands and Grasslands	This particular study focuses on five areas: 1) Consequences of fuel reduction techniques and wildfire for native plant communities and species of concern; 2) Relationship of fuels reduction methods to invasion of non-native plants; 3) Consequences of seeding treated areas with native grass seed and invasion of non-native species; 4) Similarities and differences in response among the various vegetation types; and 5) Fuel models that result from various treatments.
OR	Cascade Siskiyou National Monument	botany: invasives		Weeds Monitoring	Monitor noxious weed sites in GIS and document presence or absence and extent.
OR	Cascade Siskiyou National Monument	fisheries		Mollusk Surveys	Check all seeps and springs for Fluminicola spp. Monitor spring condition and mollusk population.

State	Unit	Discipline	Collaborator	Project Name	Project Description
OR	Cascade Siskiyou National Monument	fisheries: rangeland health		Rangeland Health Assessment, Bank Stabilization and Woody Species Utilization	Determining the impact of grazing on bank stability and shade. Photo point monitoring. 8-10 permanent plots revisited yearly. 40 to 50 random plots monitored in critical stream reaches within allotments.
OR	Cascade Siskiyou National Monument	hydrology		Precipitation Measurement	Document rainfall at or near stream gauging stations and calibrate streamflow and other monitoring parameters sampled in vicinity.
OR	Cascade Siskiyou National Monument	hydrology		Stream Gauging Station	Determine long-term streamflow regimes in order to document effects of BLM actions on watersheds.
OR	Cascade Siskiyou National Monument	hydrology		Summer Stream Temperature Monitoring Program	Document stream temperatures and long-term recovery of 303(d) listed streams at 13 locations in the CSNM.
OR	Cascade Siskiyou National Monument	hydrology		Storm Event Grab Sampling	Document turbidity, conductivity, pH, water temperature, air temperature, snowpack, and discharge at 26 sites during high streamflow events and sampling as infrequent opportunities occur.
OR	Cascade Siskiyou National Monument	rangeland health		CSNM Range Related Projects On-going Monitoring	Continue 73 photo-point cover transects, particularly those related to exclosures (5-15/year).
OR	Cascade Siskiyou National Monument	rangeland health		Utilization Mapping	Determine percent of utilization of key forage species on selected allotments. Line transect of approximately 100 points. 53 plots (~5/year) Ashland Resource Area.
OR	Cascade Siskiyou National Monument	rangeland health		Lease Compliance Checks	Season of use, number and location of cows, sensitive areas. Visit selected range improvement structures (fences, troughs, ponds) to monitor condition.
OR	Cascade Siskiyou National Monument	recreation	Pacific Crest Trail Association (PCTA)	Pacific Crest Trail (PCT) Trail Condition	Monitor trail condition, erosion, hazards, condition of previous projects. Monitor portions of trail 2-3 times/year. Photo monitoring of restoration projects and selected areas.
OR	Cascade Siskiyou National Monument	recreation	Pacific Crest Trail Association (PCTA)	Pacific Crest Trail (PCT) Visitor Use Study	Determine trends over time. Visitor counters placed to detect yearly use.

State	Unit	Discipline	Collaborator	Project Name	Project Description
OR	Cascade Siskiyou National Monument	riparian: rangeland health		Riparian Photo Points	Selected points on most allotments. 47 points (~10/year) Ashland Resource Area.
OR	Cascade Siskiyou National Monument	wildlife		Northwestern Pond Turtle Monitoring	Monitor three known sites for population size and age structure.
OR	Cascade Siskiyou National Monument	wildlife	Westside Ecological, Doug Barrett; Forest Capital Partners, Jenniffer Bakke	Northern Spotted Owl Known Site Monitoring	Monitor known spotted owl sites on BLM-managed land that could affect operations on industry land. Approximately 15 sites monitored by industry personnel.
OR	Cascade Siskiyou National Monument	wildlife	Oregon Eagle Foundation	Bald Eagle Nest Surveys	Monitor known Bald Eagle nests for occupancy, breeding status, and reproduction.
OR	Cascade Siskiyou National Monument	wildlife		Great Gray Owl Monitoring	Informal monitoring of known great gray owl locations.
OR	Cascade Siskiyou National Monument	wildlife	Institute for Applied Ecology, Tom Kaye, Ph.D.	Population Monitoring and Effects of Grazing on Greene's Mariposa Lily (Calochortus greenei)	Permanent fenced/unfenced paired plots established. Three study areas that span the range of cattle utilization.
OR	Cascade Siskiyou National Monument	wildlife: avian		Peregrine Falcon Monitoring	Assess breeding/occupancy status of one known Peregrine Falcon site. Informal monitoring with data collected as time permits.
OR	Cascade Siskiyou National Monument	wildlife:avian	University of Washington, Sam Wasser	Fisher Surveys	Expand knowledge of Fisher distribution and occupancy. Utilized hair snares and motion-sensitive cameras at bait stations. Use DNA to identify source population. The Fisher is a candidate species for ESA listing.
OR	Steens Mountain Cooperative Management and Protection Area	archaeology	University of Wisconsin, Milwaukee	Roaring Butte Cultural Resource Survey	A small archaeological team from University of Wisconsin-Milwaukee spent six weeks in the Roaring Butte area of Steens Mountain in FY08. Activities included inventory of 154 acres, recording two archaeological sites, surface artifact collection and mapping and excavation of 12 test pits to establish the integrity, relative age and research potential of the Roaring Butte Site. Prehistoric rock art, datable artifacts, charcoal, bone tools and faunal remains were recorded. The team also documented surface damage from permitted use and illegal artifact collectors. Full-scale excavation will be initiated in summer 2009.

State	Unit	Discipline	Collaborator	Project Name	Project Description
OR	Steens Mountain Cooperative Management and Protection Area	archaeology: climate	University of Wisconsin-Milwaukee; Washington State University; Oregon Archaeological Society	Steens Mountain Archaeology Project Challenge Cost Share	Steens Mountain Archaeology Project Challenge Cost Share completed its final season of archaeological excavation at the Mortar Riddle Site in summer 2007. Analysis of a massive number of grinding stones is currently underway. The site is a small village used as a staging area for hunting and gathering in the High Steens as well as a spring root gathering an fall fruit gathering and processing camp. Evidence from charcoal samples found at the site provide a good picture of riparian plant diversity of the Little Blitzen River existing from 1800 years ago to historic times. Big and small game faunal remains have been found at the site in large numbers and provide a picture of wildlife diversity and abundance in the area during the last 1800 years. Intensity of the use of the site has been correlated to local climate changes over the last 2000 years and has been tied to paleo-environmental records derived from Fish Lake and Malheur Maar by Washington State University.
OR	Steens Mountain Cooperative Management and Protection Area	botany	Eastern Oregon Agricultural Research Service (EOARS); Oregon State University	Juniper Science	Eastern Oregon Agricultural Research Service (EOARS) and Oregon State University remain consistent partners with BLM for scientific study of the Steens Mountain CMPA. Through this close relationship BLM is better able to assess juniper treatment options, results, and opportunities in furtherance of juniper management.
OR	Steens Mountain Cooperative Management and Protection Area	climate	USFS; Natural Areas Association	Possible Effects of Global Warming on High Elevation Plant Communities: Little Wildhorse Lake Research Natural Area	A study of the possible effects of global warming on high elevation plant communities continued in the Little Wildhorse Lake Research Natural Area by the Forest Service and Natural Areas Association.
OR	Steens Mountain Cooperative Management and Protection Area	interdisciplinary		Steens Mountain CMPA Monitoring Plan	The CMPA Monitoring Plan is outlined in the 2005 Resource Management Plan. http://www.blm.gov/or/districts/burns/plans/files/Steens%20ROD-RMP.pdf
OR	Yaquina Head Outstanding Natural Area	geology	United States Coast Guard	Absolute Gravity Observations	YHONA is used as a test site for absolute gravity observations.

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OR	Yaquina Head Outstanding Natural Area	hydrology: ocean: biolog: chemistry	Oregon State University, College of Oceanic & Atmospheric Sciences	Ocean Current Tracking Research and Measurement System	Research aimed at tracking ocean currents along and measuring upwellings along the Oregon Coast. Information made available to researchers and interested publics in real time on a website maintained by OSU. Http://bragg.coas.oregonstate.edu/
OR	Yaquina Head Outstanding Natural Area	wildlife: avian	Oregon State University, Hatfield Marine Science Center	Biological Investigations of Nesting Seabirds at Yaquina Head ONA	Research aimed at monitoring the murre colony that nests off of the headland at Yaquina Head. Observations of reproductive success of the colonies, diet, and foraging, and the impacts of bald eagle predation.
OR	Yaquina Head Outstanding Natural Area	wildlife: marine mammals: physiology and behavior	Oregon State University, Hatfield Marine Science Center; Marine Mammal Institute	Gray Whale Migration Along the Oregon Coast	Recent plans to develop wave energy farms off of the Oregon coast have raised concerns about potential effects on the marine environment. Among these concerns are the potential effects of the wave energy farms on migrating gray whales. Researchers used YHONA as a platform to conduct a study on the migration patterns of gray whales. The objective of the study was to obtain up-to-date information on the areas used by gray whales when they pass Yaquina Head.
UT	Grand Staircase-Escalante National Monument	geology	University of Witwatersrand, South Africa and Southern Utah University - Dr. Eric Roberts	Stratigraphy, Sedimentology and Taphonomy of the Kaiparowits Formation, Southern Utah	Study of sedimentology, deposital environment and seismic effects of ancient earthquake activity.
UT	Grand Staircase-Escalante National Monument	geology	University of Utah, Dr. Marjorie Chan	Colorimetrics of the Jurassic Navajo Sandstone	Study of the distribution of the coloration and iron-oxide concretions in the Jurassic Navajo Sandstone in southern Utah.
UT	Grand Staircase-Escalante National Monument	geology	French Institute of Petroleum	Upper Valley Oil Field Oil and Gas Reservoir Properties	Sampling methane and Carbon Dioxide from the Upper Valley oil field to study oil and gas reservoir properties.
UT	Grand Staircase-Escalante National Monument	geology	Purdue University, Dr. Brenda Beitler Bowen	History of Fluid-sediment Interactions within the Jurassic Navajo Sandstone in Southern Utah	Study of the history of fluid-sediment interactions within the Jurassic Navajo Sandstone in Southern Utah.

State	Unit	Discipline	Collaborator	Project Name	Project Description
UT	Grand Staircase-Escalante National Monument	geology	Brigham Young University, Dr. Britt Brooks	Sampling Detrital Zircon for Uranium-Lead Dating of the Late Cretaceous Stratigraphy	Sampling detrital zircon for uranium-lead dating of the Late Cretaceous Stratigraphy.
UT	Grand Staircase-Escalante National Monument	geology	University of New Mexico, Dr. Carol Hill	Transport of Gravels and Understanding the Origin of the Colorado River through Grand Canyon	Study of transport of gravels and the origin of the Colorado River through Grand Canyon.
UT	Grand Staircase-Escalante National Monument	geology	United States Geological Survey, Dr. Dennis Ebert	Iron Concretions Spheres on GSENM Relative to Similar Spheres Found on Mars	Study iron concretions spheres on GSENM in relation to similar spheres found on Mars.
UT	Grand Staircase-Escalante National Monument	paleontology	University of Nebraska, Dr. David B. Loope	Aeolian Sandstones and Paleoecology	Study of the aeolian sandstones from Permian to Jurassic age, widespread on GSENM are the focus of this study. These formations contain information concerning ancient wind systems, ancient ecosystems, and paleoclimate.
UT	Grand Staircase-Escalante National Monument	paleontology	College of Osteopathic Medicine, Ohio University, Dr. Patrick O'Conner	Wahweap Formation Dinosaurs	Inventoryof the Wahweap Formation for macrovertebrate fossil remains to assess the Wahweap Formation's biodiversity.
UT	Grand Staircase-Escalante National Monument	paleontology	Museum of Western Colorado, Dr. John Foster	Triassic Vertebrates and Tracks	Inventory of GSENM's Triassic vertebrate fossils and tracks.
UT	Grand Staircase-Escalante National Monument	paleontology	Raymond M. Alf Museum of Paleontology, Donald Lofgren	Dinosaur diversity in the Kaiparowits Formation	Field inventory of the Cannan Peak area for Late Cretaceous marcorvertebrate fossils (Kaiparowits Formation).
UT	Grand Staircase-Escalante National Monument	paleontology	Idaho State University, Dr. Leif Tapanila	Molluscan Taphonomy	Studies on the processes and materials involved in getting large bivalve and gastropod accumulations in the Cretaceous fossil record.
UT	Grand Staircase-Escalante National Monument	paleontology	Yale Peabody Museum	Late Triassic Vertebrates	Field inventories of Late Triassic macrovertebrate fossils in the circle cliffs and Vermilion Cliffs areas of GSENM.
UT	Grand Staircase-Escalante National Monument	paleontology	Utah Geological Survey, Dr. James I. Kirkland	Late Cretaceous Biodiversity	Late Cretaceous biodiversity.

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UT	Grand Staircase-Escalante National Monument	paleontology	Oklahoma Museum of Natural History, Dr. Richard L. Cifelli	Origins of Early Mammals	Documentaion of the diversity and evolutionary trends of mammals, including methatherians (marsupials) and eutherians (placentals) during the Late Cretaceous.
UT	Grand Staircase-Escalante National Monument	paleontology	Weber State University, Dr. Jeffrey Eaton	Origins of Early Mammals	Origins of early mammals.
UT	Grand Staircase-Escalante National Monument	paleontology	Utah Museum of Natural History	Land Snails of GSENM	Field inventory and biogeographic analysis of terrestrail snail diverstiy in GSENM.
UT	Grand Staircase-Escalante National Monument	paleontology	Montana State University, Dr. Dave Varicchio and doctoral student Mike Knell.	GSENM Cretaceous Turtle Diversity and Taphonomy	Intensive field based analysis of the mode of occurrence, frequency, and preservational state of all Late Cretaceous turtle taxa in the Kaiparowits Formation.
UT	Grand Staircase-Escalante National Monument	paleontology	Southern Utah University, Joshua Cox	Stratigraphy of the Kaiparowits, Wahweap and Straight Cliffs Formations, Kaiparowits Plateau	Stratigraphy, sedimentology, and taphonomy of the upper portion of the Late Cretaceous section, Souther Utah. Refining the Kaiparowits Basin's chronostratigraphic and depositional framework.
UT	Grand Staircase-Escalante National Monument	paleontology	Utah Museum of Natural History, Mike Getty	Kapairowits and Wahweap Dinosaurs	Kapairowits and Wahweap dinosaurs.
UT	Grand Staircase-Escalante National Monument	paleontology	Northwestern University, Rich Barclay	Carbon Dioxide Concentrations in the Late Cretaceous and Relationship to Mass Extinction of Marine Biodiversity	Study of terrestrial plant response (cuticle density) to a marine anocia and mass extinction event at the Cenomaninian-Turonian Cretaceous stage boundary.
UT	Grand Staircase-Escalante National Monument	paleontology	Denver Museum of Natural History, Dr. Kirk Johnson	Late Cretaceous Plant Diversity and Ecology	Field collection and lab analysis of Late Cretaceous floral fossils to determine plant diversity, ecology, and climatic trends.
UT	Grand Staircase-Escalante National Monument	rangeland health	Wild Utah Project, Dr. James Catlin	Identification and Monitoring Annual Herbaceous Plants and Utilization by Wild and Domestic Grazers	Identification and monitoring of annual herbaceous production and herbaceous utilization by larger grazers, both wild and domestic.

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UT	Grand Staircase-Escalante National Monument	soils	USGS	Broad-Scale Survey of Soil Stability and Magnetic Properties Inside and Outside of Long-Term Grazing Exclosures in Colorado Plateau Drylands	Broad-Scale Survey of Soil Stability and Magnetic Properties Inside and Outside of Long-Term Grazing Exclosures in Colorado Plateau Drylands.
UT	Grand Staircase-Escalante National Monument	wildlife: avian	Montana State University, Dr. David Willey	Long Term Ecological Monitoring of Mexican Spotted Owls Prey Species in GSENM	Long term ecological monitoring of Mexican Spotted Owls prey species in GSENM.
UT	Grand Staircase-Escalante National Monument	wildlife: invertebrates	Brigham Young University	Inventory and Study of Macro-invertebrates for Scientific and Educational Purposes	Inventory and study of macro-invertebrates for scientific and educational purposes and inventory of these animals on the Monument.

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National Landscape Conservation System

Science Summary Report

Bureau of Land Management

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